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S. HRG. 101-416

THE BIOLOGICAL WEAPONS ANTI-TERRORISM ACT OF 1989

HEARING

BEFORE THE

COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

S. 993

A BILL TO IMPLEMENT THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION AND STOCKPILING OF BACTERIOLOGICAL (BIOLOGICAL) AND TOXIN WEAPONS AND THEIR DESTRUCTION, BY PROHIBITING CERTAIN CONDUCT RELATING TO BIOLOGICAL WEAPONS, AND FOR OTHER PURPOSES

JULY 26, 1989

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THE BIOLOGICAL WEAPONS ANTI-TERRORISM ACT OF 1989—S. 993

WEDNESDAY, JULY 26, 1989

U.S. SENATE,
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The committee met, pursuant to notice, at 2:30 p.m., in Room SD-226, Dirksen Senate Office Building, Hon. Herbert H. Kohl (acting chairman of the committee), presiding.

Also present: Senators Metzenbaum, Thurmond, Simon, and Heflin.

OPENING STATEMENT OF SENATOR HERBERT KOHL

Senator KOHL. This hearing is called to order.

I would like to welcome all of you to this hearing on S. 993, which is the Biological Weapons Anti-Terrorism Act of 1989. We have a very distinguished group of witnesses to discuss the need for such legislation and to analyze this proposal.

At the outset, I would like to thank the Chairman of the Judiciary Committee, Joe Biden, for seeing to it that S. 993 received such a speedy hearing.

I would like at this time to call upon the senator who authored this bill with me, David Pryor, to make his statement. Senator Pryor has been kind enough to come over here. He is at the Hastings impeachment trial this week and last week and the week before and next week, but he was kind enough to take a few minutes out and come over and say a few words to us.

Senator Pryor.

STATEMENT OF HON. DAVID PRYOR, A U.S. SENATOR FROM THE STATE OF ARKANSAS

Senator PRYOR. Mr. Chairman, thank you, Mr. Chairman and Senator Metzenbaum.

I want to come today and offer my strong support for the Biological Weapons Anti-Terrorism Act, Mr. Chairman, and I think it should be noted that it has been almost a decade since the Senate gave this type of legislation any serious consideration.

And I think, Mr. Chairman, you have truly broken new ground by introducing this bill. You have demonstrated great leadership organizing this hearing and securing cosponsors of this legislation. For example, Senator Jeff Bingaman of New Mexico just a few moments ago asked me if I would inform you that he would like to be a cosponsor of this legislation, and I am sure that you will see that Senator Bingaman becomes a cosponsor.

My interest goes back a long time in this particular concern. A scientist, who had been a consultant in the Pentagon's chemical and biological program described to me how a terrorist, with relative ease and little sophistication, could develop a small, but lethal stockpile of biological agents. The scientist then described to me how the terrorist could easily disperse those toxins in a city such as New York or Washington, DC, wreaking uncontrollable death and panic, which is a terrorist's stock in trade.

According to one source, Mr. Chairman, when dumped into a water supply, one gram, one gram of typhoid culture has an impact roughly equivalent to 100 grams of the "V" chemical nerve agent, or almost 40 pounds of potassium cyanide.

The point is that a minute tiny amount of biological toxins can have the same lethal effect of a larger amount of a chemical weapon. Lethality and availability create the potential for biological weapons to become a tool of terrorists.

Mr. Chairman, I would like that my statement be submitted for the record. I would like to close by saying that, today, under our present statutes, an individual found to be trafficking or stockpiling lethal biological agents might be charged with a violation of something like the Public Health Service Act or the Federal Insecticide Act. There is no statutorily effective way that we can punish the use, nor the stockpiling, or the development of these agents for this very illegal use.

It is a legal void. It is inexcusable. It demands our attention. And you have created the environment, Mr. Chairman, for us to act and to act now, and we should do it.

We are very indebted to you, Mr. Chairman, Senator Kohl, Senator Metzenbaum, and I am very grateful that I have had the opportunity to become an original cosponsor with you. I am very, grateful for the chance to come for a few moments this afternoon to voice my strong support.

And I do thank you for scheduling me up front and now I must depart and go continue in my duties as a juror, I guess you would say, in the Alcee Hastings trial.

[The statement of Senator Pryor follows:]

Senator David Pryor
Before the Senate Committee on the Judiciary
July 26, 1989

Germ Warfare Danger

Mr. Chairman, I am proud to be the prime cosponsor of your bill and the subject of this hearing, the Biological Weapons Anti-Terrorism Act.

It should be noted that it has been almost a decade since the Senate gave this type of legislation serious consideration. You have truly broken new ground by introducing this bill and you have demonstrated great leadership by organizing this hearing.

Mr. Chairman, I come today bearing a gift of sorts. Just yesterday our colleague and an Armed Services Subcommittee Chairman, Senator Jeff Bingaman, asked me to offer to you his cosponsorship of this bill.

My interest in your legislation dates back several years to a discussion I had with a respected scientist. The scientist, who is a consultant in the Pentagon's chemical and biological programs, described how a terrorist, with relative ease and little sophistication, could develop a small but lethal stockpile of biological agents. He then described how the terrorist could easily disperse the toxins in a city such as New York or Washington, wreaking uncontrollable death and panic, a terrorist's stock and trade.

For example, according to one source, when dumped into a water supply, one gram of typhoid culture has an impact roughly equivalent to 100 grams of the "V" chemical nerve agent, or almost 40 pounds of potassium cyanide. The point is that a minute amount of a biological toxin can have the same lethal effect as a larger amount of a chemical weapon. Lethality and availability create the potential for biological weapons to become a tool of terrorists.

Finally, Mr. Chairman, my scientist friend pointed out that although the U.S. government observes a 1972 treaty that prohibits the development of biological weapons, there is no law on the books that proscribes specific penalties for biological weapons development in the private sector.

Today an individual found to be trafficking or stockpiling lethal biological agents might be charged with violation of something like the Public Health Service Act or the Federal Insecticide Act. This legal void is inexcusable and demands our attention.

Mr. Chairman, I do not need to go further into the reasons why this legislation is needed, the excellent witnesses to follow will create a much needed record on the point.

I simply want to commend your efforts here today, to promise you my support in future, and to thank you for giving me this opportunity to testify before the Committee.

Senator **Kohl**. Thank you, Senator Pryor.

Senator **Pryor**. Thank you, Mr. Chairman.

Thank you, Senator Metzenbaum.

Senator **Kohl**. Your presence means a great deal to us.

Senator **Pryor**. Thank you.

Senator **Kohl**. Thank you very much.

With Senator Pryor, I introduced this bill for three important reasons. First, there is a loophole in our criminal law. Under current law, a private individual, even a terrorist, can legally manufacture a biological weapon. If that weapon is used to kill someone, the aggressor can be prosecuted for murder. But there is no law right now that permits the authorities to stop the weapon from being built in the first place. This bill would close this loophole. Accordingly, it would enhance our safety.

Second, our bill is a nonproliferation measure. It would make it a crime for an individual to help a foreign nation acquire biological weapons. This is particularly crucial at a time when some smaller countries are looking for ways to fight more powerful neighbors.

Biological weapons are much easier to develop than nuclear arms. We cannot allow our science and technology to be exploited by those who are searching for a "poor man's nuclear bomb."

Finally, S. 993 is an arms control initiative. It would implement the 1972 Biological Weapons Convention. The Senate unanimously ratified that treaty in 1974 and it has been signed by 111 nations, including the Soviet Union. The Convention prohibits countries from having biological agents, toxins, and delivery systems that have no peaceful purpose.

Under article IV of the Convention, nations shall "take any necessary measures" to prevent the development of bioweapons at home. S. 993 represents such a measure. It would put the Convention's prohibitions into our domestic law and in so doing, it would send a strong message that the United States remains committed to the original treaty.

We continue to abhor germ warfare and we continue to believe in the importance of international arms agreements.

I would like to solicit opening statements from my fellow members on this committee, and would like to recognize Senator Thurmond.

OPENING STATEMENT OF SENATOR STROM THURMOND, A U.S. SENATOR FROM THE STATE OF SOUTH CAROLINA

Senator **Thurmond**. Thank you, Mr. Chairman.

Today, we are present to hear testimony regarding the Biological Weapons Anti-Terrorism Act of 1989. This legislation, which was recently introduced by Senator Kohl, is intended to complete implementation of the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological and Toxin Weapons and on their Destruction. This legislation would amend current law to prohibit certain conduct related to biological warfare.

The United States was one of 103 countries to sign this Convention, as was the Soviet Union, and the Convention was ratified by unanimous vote of the Senate in 1974.

Biological weapons are disease causing bacteria, viruses, and naturally occurring toxins that could be harnessed to infect whole populations with lethal germs.

Under the terms of the Biological Warfare Convention, the United States is obligated, as are the other members of the Convention, to take necessary steps to prohibit and prevent development and production of biological warfare within its own borders.

This legislation proposes to meet that commitment by imposing tough criminal penalties upon those persons who knowingly develop any agent, toxin, or delivery system for use as a biological weapon.

The bill also makes it a crime to knowingly assist foreign nations and terrorist in acquiring biological agents for use as weapons. Those who would violate the law would face heavy fines and the possibility of life imprisonment.

Mr. Chairman, the potential threat germ warfare poses for the future of our Nation and our world mandates that we consider legitimate efforts to deter production of these weapons.

Although this potential threat has been determined to be remote by some experts, biological weapons are potentially very powerful and could become deadly agents for terrorists.

In closing, the Federal Government has already taken steps to decrease the threat of biological warfare. The Department of Justice currently prosecutes cases involving the unlawful exporting of biological agents and the equipment related to germ warfare.

I believe legislation to assist them in their efforts against biological weapons should certainly be given serious consideration.

For these reasons, I look forward to today's testimony.

Thank you, Mr. Chairman.

Senator KOHL. Thank you, Senator Thurmond.

Senator Metzenbaum.

OPENING STATEMENT OF SENATOR HOWARD M. METZENBAUM, A U.S. SENATOR FROM THE STATE OF OHIO

Senator METZENBAUM. Mr. Chairman, I want to commend you for not only bringing this legislation to the committee and hopefully to the floor, but for your innovative thinking in doing so, and for your concern about a real problem.

It is an area in which if there were to be—if biological weapons were to be used and we then learned about them and found that there were not adequate laws covering the subject, we would all be saying to ourselves, "Well, why were there not"? Why did we not do something about it? Where was I"?

So I am happy to join with you as a cosponsor of this legislation, which I am not at the moment, but I ask that you would add my name to it, and, second, to congratulate you and tell you that I will be prepared to work with you in every way possible to pass the bill. I think you have assembled a very distinguished list of witnesses here today. I am only sorry that I cannot remain. I have a meeting of the Intelligence Committee, but I am prepared to help you in every way possible toward the passage of the legislation.

Senator **Kohl**. Thank you, Senator Metzenbaum. I appreciate your stopping by and I appreciate your encouragement and your support.

Senator **Metzenbaum**. Thank you.

Senator **Kohl**. Our first panel this afternoon consists of two leaders on the bioweapons issue in the House. Bob Kastenmeier, the Dean of my State's delegation and a friend of mine, is the sponsor of H.R. 237, which is almost identical to S. 993. Congressman Kastenmeier is the Chairman of Subcommittee on Courts, Intellectual Property and the Administration of Justice.

Bruce Morrison is the Chairman of the Subcommittee on Immigration, Refugees and International Law, and that is where H.R. 237 has been referred. Congressman Morrison has taken a keen interest in the issue, partly because of his background in science.

Gentlemen, thank you very much for taking the time to appear here.

Bob, would you like to lead off?

STATEMENT OF HON. ROBERT KASTENMEIER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN; AND HON. BRUCE MORRISON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CONNECTICUT

Mr. **Kastenmeier**. Thank you very much, Mr. Chairman. Obviously, I am pleased to have this opportunity to appear here today to testify on behalf of legislation to implement the Biological Weapons Convention. And I want to compliment you, my colleague from Wisconsin, Senator Kohl, for introducing S. 993, which is very similar to the legislation we have introduced in the House, H.R. 237.

Actually, I have been involved with the chemical biological warfare issue for about 30 years. In 1959, it was my resolution in the House, which at that time merely reaffirmed what we thought was our policy of no first use of chemical, biological or radio logical weapons.

Historically, the CBS series, as it was referred to in 1959, 1960, was important and while that resolution never passed, it achieved enough prominence as an issue so that President Eisenhower publicly reaffirmed his support of the first no first use policy for that field of weapons, and, of course, we have made very great strides in recent years. Certainly, three decades have passed since that initiative.

Progress has always been slow and thus, Mr. Chairman, I deeply appreciate your scheduling hearings on legislation to implement this Convention.

In 1969, President Nixon unilaterally renounced the use of biological weapons and pledged to destroy the existing U.S. stockpile.

In 1972, the Nixon administration endorsed the Biological Weapons Convention and by the time the Senate ratified the Convention in 1975, all the biological weapons in our possession had been destroyed.

The Biological Weapons Convention requires each signatory nation to take all measures necessary to prevent and prohibit within its territory under its jurisdiction or under its control anywhere the activities prohibited by the Convention.

Although 14 years have passed since the ratification of the Convention, the United States, however, has not yet passed legislation to accomplish this purpose. There presently are not Federal statutes that prohibit and provide penalties for the development, production, stockpiling, acquisition, or retention of, one, biological agents or toxins of types and in quantities that have no justification for peaceful purposes and, two, weapons, equipment, and means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

On two occasions the executive branch tried to have legislation enacted to implement the Convention. In 1973, a bill was introduced in the Congress, but it failed to receive consideration because of the delay in ratifying the Convention itself. Another effort was made in 1980, but time ran out with the congressional session.

The Reagan administration has held that extensive existing legislation controlled certain private actions concerning the items and actions prohibited by the Convention. Such legislation, it asserted, included the Arms Export Control Act, the Export Administration Act, Hazardous Material Transportation Act, Toxic Substances Control Act, the Public Health Service Act, the Federal Insecticide, Pesticide, and Rodenticide Act. But these existing laws are deficient in several main aspects since they do not cover biological agents and toxins described by the Convention in its various articles. Also, they fail to implement the Convention goal of eradicating all agents or toxins that have no peaceful purpose.

Simply stated, no statute exists for prohibiting citizens from making biological weapons. It is my understanding that the Bush administration, reflecting the President's stated support for banning biological weapons from the face of the earth, has indicated through officials of the Departments of State and Defense in testimony before the Senate Committee on Governmental Affairs, that new legislation implementing the Convention may be useful and desirable.

Mr. Chairman, we are in an age of biotechnology revolution where genetic engineering has made it possible for the scientific community to design fundamental aspects of living organisms to make them produce beneficial products for society.

Legislation to implement the Convention will not interfere with the legitimate research and development and the commercial applications of new organisms.

Recently, I will say parenthetically, these have been accepted for purposes of patenting, which my colleague and I, through the last Congress, know something about in our own deliberations on a different side of it.

But there is a dark side to the biotechnology revolution and that is the ability to create an infinite variety of deadly microbes, toxins and other agents of biological mass destruction that has been made easier.

The technology makes it possible to produce miracle drugs, but it also makes it possible to create microorganisms that can cause deadly diseases for which no cures exists.

Biological weapons are abhorrent. The fear of the creation of doomsday bacterial or viral weapons use is equal to that associated with the nuclear holocaust.

We must do everything in our power to prevent the use of biological weapons. We have an international obligation to do so. The legislation to implement the Biological Warfare Convention will provide penalties for those who knowingly violate the activities prohibited by the Convention.

The Attorney General will at long last be given authority to seize and destroy biological agents, toxins, and weapons.

Mr. Chairman, I urge speedy and favorable action to approve the implementation legislation. Thank you.

[The statement of Mr. Kastenmeier follows:]

STATEMENT OF REPRESENTATIVE ROBERT W. KASTENMEIER OF WISCONSIN FOR SENATE JUDICIARY COMMITTEE ON LEGISLATION TO IMPLEMENT THE BIOLOGICAL WEAPONS CONVENTION, JULY 26, 1989.

MR. KASTENMEIER: Mr. Chairman, I am pleased to have this opportunity to appear here today to testify on behalf of legislation to implement the Biological Weapons Convention, and I want to compliment you for introducing S. 993, which is very similar to the legislation, H.R. 237, which I have introduced in the House.

I have been involved with the chemical-biological warfare issue for about thirty years. Three decades have passed since I proposed a resolution on no first-use of biological weapons. Progress on the CBW issue has always been slow, and thus, Senator Kohl, I deeply appreciate your scheduling this hearing on the legislation to implement the Biological Warfare Convention.

In 1969, President Nixon unilaterally renounced the use of biological weapons and pledged to destroy the existing U.S. stockpile. In 1972, the Nixon administration endorsed the Biological Weapons Convention, and by the time the Senate ratified the Convention in 1975, all the biological weapons in our possession had been destroyed.

The Biological Weapons Convention requires each signatory to take all measures necessary to prevent and prohibit within its territory, under its jurisdiction or under its control anywhere, the activities prohibited by the Convention. Although fourteen years have passed since the ratification of the Convention, the United States, however, has not yet passed legislation to accomplish this purpose. There presently are no Federal statutes that prohibit and provide penalties for the development, production, stockpiling acquisition or retention of (1) biological agents or toxins of types and in quantities that have no justification for peaceful purposes and (2) weapons, equipment, and means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

On two occasions, the Executive Branch tried to have legislation enacted to implement the Convention. In 1973, a bill was introduced in the Congress but it failed to receive consideration because of the delay in ratifying the Convention. Another effort was made in 1980, but the congressional session came to an end before any action could be taken.

The Reagan administration held that extensive existing legislation controlled certain private actions concerning the items and actions prohibited by the Convention. Such legislation included the Arms Export Control Act, the Export Administration Act, the Hazardous Material Transportation Act, the Toxic Substances Control Act, the Public Health Service Act, and the Federal Insecticide, Pesticide and Rodenticide Act. These existing laws, however, are deficient in several main aspects since they do not cover biological agents and toxins described by the Convention in its various articles. Also they fail to implement the Convention goal of eradicating all agents or toxins that have no peaceful purpose. Simply stated, no statute exists for prohibiting citizens from making biological weapons.

I understand that the Bush administration, reflecting the President's stated support for banning biological weapons from the face of the Earth, has indicated, through officials of the Departments of State and Defense in testimony before the Senate Committee on Government Affairs, that new legislation implementing the Convention may be useful and desirable.

Mr. Chairman, we are in the age of the biotechnology revolution where genetic engineering has made it possible for the scientific community to design fundamental aspects of living organisms to make them produce beneficial products for society. The legislation to implement the Biological Warfare Convention will not interfere with legitimate research and development and the commercial applications of new organisms. But, there is a dark side to the biotechnology revolution, and that is the ability to create an infinite variety of deadly microbes, toxins and other agents of biological mass destruction has been made easier. The technology that makes it possible to produce miracle drugs also makes it possible to create microorganisms that can cause deadly diseases for which no cures exist.

Biological weapons are abhorrent. The fear of the creation of doomsday bacterial or viral weapons use is equal to that associated with a nuclear holocaust. We must do everything in our power to prevent the use of biological weapons. We have an international obligation to do so. The legislation to implement the Biological Warfare Convention will provide penalties for those who knowingly violate the activities prohibited by the Convention. The Attorney General will be given the authority to seize and destroy biological agents, toxins and weapons.

Mr. Chairman, I urge speedy and favorable action to approve the Biological Warfare Convention implementation legislation.

Senator **Kohl**. Thank you, Representative Kastenmeier.

And now, Representative Morrison.

STATEMENT OF REP. BRUCE MORRISON

Mr. **Morrison**. Mr. Chairman and Senator Thurmond, thank you very much for the opportunity to be here today. I am honored to be able to appear before you and honored to be able to appear on a panel with my good friend, Congressman Kastenmeier, who is, as he has explained in his testimony, by no means a Johnny Come Lately to this issue, but in fact, someone who has been in the forefront of this question throughout his congressional career.

And as you know, it is his legislation, H.R. 237, in the House, which is the companion legislation, the complement to your bill, S. 993, on which this hearing is being held.

This is very important legislation. Your leadership, Mr. Chairman, in bringing this matter to the hearing and the support you have received from the Chairman of the full Judiciary Committee, Senator Biden, are very important signals about the importance of this legislation and they certainly are important spurs to us on the House side to begin to move forward as well with Congressman Kastenmeier's legislation.

As both Senator Pryor and Congressman Kastenmeier have already emphasized, it is high time that we implemented the second half of our responsibility under the ratification of the Convention.

The Convention by its ratification committed our governmental authority and our governmental activities to an elimination of biological weapons and biological agents used improperly for hostile purposes.

But we have a second obligation and that is, within our jurisdiction enforcing the prohibitions on the use of these materials for improper purposes by private individuals.

We fear terrorists. We fear individuals who for private gain might make these materials available to other countries for hostile and improper purposes.

It would be nice to believe that private individuals would not be so motivated, but we have seen too much already in this past year in the chemical warfare area of nationals of other countries cooperating with some of the worst terrorist states in the world in moving forward the capacity of those nations to use chemical agents in a hostile fashion.

And only too fresh in our memories is the Iran-Iraq war and the Iraq attack on the curds to tell us that these kinds of activities, which ought to be considered too inhumane and improper for any state to employ, are in fact mechanisms to which desperate people will turn in various circumstances and it is frightening. But it also ought to alert us to our responsibility.

This legislation, which you have sponsored and for which you have received strong support within the Senate, takes us in the direction that we need to go. We in the House in the subcommittee I chair are moving forward on a schedule to a hearing on Congressman Kastenmeier's bill in September and we hope prompt action on the bill within this session of the Congress.

We certainly hope that we will be moving forward on a similar schedule here in the Senate so that before the 101st Congress adjourns the President will have an opportunity to put his signature on legislation which completes our responsibility under the Convention.

It will be high time that it is done, but it will also be none too soon because of the dangers in any period of time which allows the possibility that individuals in the United States might misuse biological technology in this way.

Since the time that the Convention was enacted, we have seen tremendous advances in the area of biotechnology, and that makes it that much more important that those activities be channeled fully by the law only into legitimate and human activities and away from any kind of destructive, improper activities that are barred by the Convention.

So I thank you again, Mr. Chairman, for the opportunity to be here, commend you again on your leadership, and look forward to a time when we can be taking this bill to President Bush for his signature.

[The statement of Mr. Morrison follows:]

TESTIMONY OF
THE HONORABLE BRUCE A. MORRISON

CHAIRMAN, HOUSE JUDICIARY SUBCOMMITTEE ON IMMIGRATION, REFUGEES AND INTERNATIONAL LAW

before the
SENATE JUDICIARY COMMITTEE
JULY 26, 1989

Mr. Chairman, I am delighted to have this opportunity to present my views on legislation implementing the Biological Weapons Convention, a treaty ratified by the United States in 1975.

I particularly wish to acknowledge the leadership of Senator Kohl, who is chairing today's hearing, on this issue. Your introduction of S. 993, the Biological Weapons implementation legislation, a bill with 11 co-sponsors, is an important breakthrough in the long effort to complete unfinished business dating back a decade and a half. Although you have only been in the Senate for a short while, you have brought great energy and leadership to this issue, and I commend you for it.

I also wish to take this opportunity to extend my thanks and appreciation to Senator Biden, Chairman of the Judiciary Committee, for his supporting the scheduling of this hearing.

As a graduate of M.I.T. in chemistry, and a former graduate student in chemistry at the University of Illinois, I probably know something of the potential horrors of biological and chemical warfare. In reality, however, I suspect that whether trained in science or not, we cannot, any of us, begin to comprehend the possible disasters that could result from the unchecked development of biological and toxin weapons.

Mr. Chairman, the legislation you have introduced, and the companion legislation in the House, H.R. 237, authored by my colleague and fellow Judiciary Committee member, Mr. Kastenmeier, is a critical step toward rectifying an omission that has continued through four U.S. presidencies, now extending into President Bush's term. Since the U.S. signed the Biological Weapons Convention, there have been several attempts to enact domestic legislation that would make the terms of the treaty binding on all individuals and private institutions under U.S. jurisdiction, and require severe penalties for violations. Certainly, the optimum time for action on the implementation legislation would have been at the time of the ratification of the Convention itself. For a variety of bureaucratic reasons as well as the low priority assigned to the legislation by successive Administrations the legislation has long languished.

As you are aware, the Biological and Toxin Weapons Convention bans the development, production, possession and transfer of all biological and toxin weapons. The Treaty stands as a unique arms control agreement because of its sweeping provisions. It outlaws not only the use and stockpiling of biological weapons, but even their development. There are over 100 countries, including the Soviet Union, that are party to the Convention.

As applied to the United States, the Convention prohibits both our Government and its employees from developing deadly biological weapons. Normally when the U.S. signs an international treaty, we follow up the ratification with legislation conforming domestic law to the treaty. After ratification of the Biological Weapons Convention, the U.S. certainly should have clarified penalties for private individuals--to say nothing of terrorists--creating biological weapons. There was always the possibility that some individual, engaged in clandestine biological weapons research, would develop deadly agents that could pose a threat of massive epidemic or cause accidents that endanger the public.

These concerns have increased recently due to heightened interest in both chemical and biological warfare in the world community. There has been significant evidence of chemical weapons use in the Iran-Iraq war, and evidence too that U.S. and other western companies may have aided the efforts of a number of third world countries to develop chemical weapons. The spread of biological and chemical weapons to many countries could have disastrous long-term implications for the world. Combining these weapons of mass destruction with advanced long-range missile technology provide fearful opportunities to cause death and destruction. The unleashing of biological weapons could mean Armageddon in our lifetimes.

Passage of this implementation legislation would not resolve the threat of biological weapons proliferation. Nonetheless, it would signal renewed American commitment to concrete means of lessening the chance that other countries will develop these weapons. It is my hope too that the U.S. will explore international efforts to strengthen the Convention.

Since the early seventies, when the Convention was hailed as a model agreement, new techniques in genetic engineering have been developed, making possible a whole new generation of biological destructive capability. The nature of biological weaponry is such that it doesn't take large volumes to render wholesale destruction. The ease with which these deadly materials can be made is cause for serious international concern and requires speedy action.

New military interest in biotechnology has led to an expanded Pentagon budget in this field and a request for a new biological weapons defensive testing facility in Dugway, Utah. The implementing legislation is important to those legally engaged in research to clarify what kind of research is legitimate and what is outlawed. Legal guidelines would assist scientific research into the potential beneficial uses of biotechnology.

President Bush, during the recent presidential campaign, spoke of his desire to banish all biological and chemical weapons from the planet. I am hopeful that his Administration will provide decisive momentum for this implementation legislation. The opportunity is at hand.

The Administration appears to be favorably disposed toward this legislation. On May 17th of this year, J. Allen Holmes, Assistant Secretary for Polico-Military Affairs of the Department of State, in response to a question, told the Senate Committee on Governmental Affairs that:

> "I would just like to say for the record that the Department of State looks favorably on this bill [S. 993 introduced by Senator Herbert Kohl]. We think that there is a need for something like this. We would like to have an opportunity to study it and to work with the Committee."

Further, Jim E. Hinds, Deputy Assistant Secretary for Negotiations Policy, Department of Defense, told the same Committee:

> "In the last few years, two developments have occurred to lead us to conclude that implementing legislation probably is desirable. These are the explosion of biotechnology, in both basic research and applied technology, and the apparent interest in obtaining BW capability demonstrated by several nations."

I hope the Administration is prepared today to offer its' unambiguous endorsement of the legislation.

Mr. Chairman, it is my urgent hope that 1989 will be the year that the Biological Weapons Convention implementation legislation is enacted into law. I will do all in my power to move the legislation through the House of Representatives so that both the House and the Senate are prepared to send legislation to the President before the end of this Congress. Implementing the ban on biological weapons, combined with renewed international efforts to strengthen the Convention, would demonstrate continuing U.S. understanding that biological weaponry is a terrible danger to humankind.

Finally, Mr. Chairman, I would like to say that the list of proponents of this legislation is particularly impressive. They are organizations for which, I know, we share the greatest respect. Shortly after my election as Chairman of the Subcommittee, I received a letter from many of the groups urging passage of the implementing legislation. I would like to provide a copy of that letter for the record.

Thank you for giving me the opportunity to testify on this important piece of legislation. I would be pleased to respond to any questions.

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IMMIGRATION

March 21, 1989

The Honorable Bruce Morrison, Chairman
Subcommittee on Immigration, Refugees and International Law
Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

We congratulate you on your election as chairman of a key subcommittee with jurisdiction over an issue that has been neglected for 17 years. We urge you to consider early hearings and adoption of a Biological Weapons Bill.

In past years, former Judiciary Committee Chairman Peter Rodino joined with the Committee's ranking Republican, Rep. Hamilton Fish, to introduce the Biological Weapons Bill (H.R. 901 in the last Congress). We urge you to cooperate with Reps. Fish and Kastenmeier in a bipartisan effort on behalf of a similar bill this year.

Passage of such a bill is necessary to conform domestic law with the international obligations we undertook by ratifying the 1972 Biological Weapons Convention which banned the development, production, possession and transfer of all biological and toxin weapons. As you are aware, the United States generally follows up treaty ratification with required domestic legislation.

The Biological Weapons Bill would make it a federal crime for any private citizen or corporation, including any governmental personnel, to develop, produce, or possess any biological agent or toxin for use as a weapon of mass destruction. Though the Biological Weapons Convention itself bars the U.S. government from developing biological weapons, it provides no domestic penalties against private individuals, or even terrorists, for work on biological weapons.

In light of increasing concern in the U.S. and around the world about biological and chemical weapons proliferation, it is urgent that the U.S. move quickly to complete this long overdue action. We urge you to join with Representatives Fish and Kastenmeier on a common bill, schedule hearings on it and follow it up with expeditious consideration.

Yours sincerely,

Jim Wetekam, Policy Advocate
Office for Church in Society
United Church of Christ

David Cohen, President
Professionals' Coalition for Nuclear
Arms Control

Shira Flax, Washington Representative
Sierra Club

John Isaacs, Legislative Director
Council for a Livable World

Robert W. Tiller, Director
Office of Governmental Relations
American Baptist Churches, USA

Nancy Sylvester, National Coordinator
NETWORK, A Catholic Social Justice
Lobby

(over)

Edward F. Snyder, Executive Secretary
Friends Committee on National Legislation

Nachama Wilker, Executive Director
Committee for Responsible Genetics

Nancy Donaldson, Political Director
Women's Action for Nuclear Disarmament

Robert Z. Alpern, Director
Washington Office
Unitarian Universalist Association of Churches in North America

Edith Villastrigo, National Legislative Coordinator
Women Strike for Peace

Delton Franz
Washington Office
Mennonite Central Committee

Mary Jane Patterson, Director
Washington Office
Presbyterian Church, USA

Howard Ris, Executive Director
Union of Concerned Scientists

Maureen T. Thornton, Executive Director
Physicians for Social Responsibility

Leland Wilson, Director
Washington Office
Church of the Brethren

Nick Carter, Executive Director
SANE/FREEZE: Campaign for Global Security

Isabel Guy, Director
Washington office
Women's International League for Peace and Freedom

Jeremy J. Stone, President
Federation of American Scientists

Senator KOHL. Thank you, Representative Morrison.

And gentlemen, your statements will be placed in the record. Before we get to questions, I would like to solicit opening comments from Senator Simon.

Senator SIMON. I apologize for being late. I want to tell my new colleague from Wisconsin that you have two of the finest members of the House here. You probably became acquainted with Congressman Kastenmeier during the course of your own campaign effort, but Bruce Morrison is of the same caliber and we are very pleased to have you here.

I want to be a cosponsor of your bill. I just think it is simple prudence that we do everything we can to see that not only the people in this room, but our children and generations to come do not have unnecessary threats, and that is what this all about. This is, I hope, the direction we will go.

I thank you for your leadership on this and I thank the two of you for your leadership.

Senator KOHL. Thank you, Senator Simon.

I would like to ask some brief questions.

Congressman Morrison, you mentioned that a variety of organizations support this legislation. Would you like to tell us who they are in particular?

Mr. MORRISON. Yes, Senator, attached to my testimony is a letter I received this past March from a number of organizations and I will just briefly read them to you because they are an impressive list:

The United Church of Christ; the Council for a Livable World; Professionals 'Coalition for Nuclear Arms Control; the American Baptist Churches; the Sierra Club; the NETWORK, A Catholic Social Justice Lobby; the Friends Committee on National Legislation; the Union of Concerned Scientists; committee for Responsible Genetics; Physicians for Social Responsibility; Women's Action for Nuclear Disarmament; the Washington Office of the Church of the Brethren; the Unitarian Universalist Association of Churches in North America; SANE/FREEZE; the Women's Strike for Peace; Women's International League for Peace and Freedom; Mennonite Central Committee; Federation of American Scientists; and the Presbyterian Church, USA, a very diverse group of organizations with a common commitment to sensible measures for peace and protection of the world from the kind of danger that biological weapons present.

Senator KOHL. Thank you.

Representative Kastenmeier, you have many cosponsors. Could you tell us a little bit about what your hopes are for the prospects of this legislation?

Mr. KASTENMEIER. There are presently, Mr. Chairman, 51 cosponsors and that number is growing weekly and that does indicate, as I say, renewed interest in moving the legislation forward.

Our committee, the Judiciary Committee and the subcommittees, particularly, Mr. Morrison's subcommittee, have been very busy with immigration legislation the last few months, but I am sure, as he has indicated, we will have an opportunity to raise this issue in September, and I am delighted and I am sure that he will give us every opportunity to move this legislation forward.

Senator **Kohl**. Thank you.

Senator Thurmond?

Senator **Thurmond**. Congressman Kastenmeier, we are glad to have you with us. I have had the pleasure of working with you for a number of years now in judiciary matters.

Mr. **Kastenmeier**. Yes, sir.

Senator **Thurmond**. In your prepared statement, you point out that the Biological Weapons Convention requires each signatory to take all steps necessary to prevent within its territory the activities prohibited by the Convention.

In your opinion, would this legislation meet that commitment without significantly hindering legitimate research?

Mr. **Kastenmeier**. Yes, sir, it would, I would say to my distinguished friend from South Carolina. As a matter of fact, I alluded to the fact that some in the past administration asserted that the panoply of existing relatively new laws governing various chemicals and biological agents might suffice, but none of them were directly written to implement the Convention.

This provides not only penalties for the production of such materials, it provides the power of seizure. It provides injunction as possible relief for the Attorney General in pursuing the mandate of the Convention, which is to take such measures as may be necessary.

So I would say that this rather simple statute, in my view, together with all other existing statutes, would satisfy the requirements of the Convention.

Senator **Thurmond**. Congressman Kastenmeier, there is already extensive Federal legislation which prohibits certain acts related to biological weapons. Do you feel this would fill a vacuum that may exist?

Mr. **Kastenmeier**. Well, I think some of those measures can be relied upon parenthetically, but they do not satisfy the Convention. The Hazardous Material Transportation Act and many of the other acts of the past 10 or 12 years or so could, I suppose, be useful, but they are not directly responsive to what it is that the Convention would prescribe as activity and which the bill prescribes as activity.

Therefore, I would say they may be useful, but they are not an answer in and of themselves. They can be useful as adjuncts, I would think, in fulfilling our commitment.

But only a bill such as we presently have—and you remember that your body worked long and hard on the Genocide Treaty and you had to have not only agreement to the treaty itself, but you had to have implementing legislation to satisfy the requirements of that treaty, which Senator Thurmond, your body did and I think the same analog is true here is well. You do need implementing legislation.

Senator **Thurmond**. Thank you very much.

Congressman Morrison, I share your concern over the threat biological weapons may impose. In your opinion, will this legislation alert the rest of the world about the dangers of biological weapons and result in other nations enacting similar legislation?

Mr. **Morrison**. Senator Thurmond, I think that is an extremely good point and I certainly hope it will send that kind of signal. I think the United States can and should set the kind of example in the world on these proliferation issues and as in so many areas the enforcement starts at home and our commitment to a comprehensive statute here effective in the United States gives us great credibility to urge others to be more vigilant than they have been in these areas.

Senator THURMOND. Congressman Morrison, this bill would provide tough penalties for those who knowingly develop any agent, toxin, or delivery system for use as a weapon of mass destruction.

Please discuss whether the penalties under this bill will deter reckless biological research and will hold scientists more accountable for their actions.

Mr. MORRISON. Well, obviously, this bill is not directed at legitimate research activities and we would hope that it would not interfere with legitimate activities and it has been drafted with that very much in mind.

During the course of this hearing and the hearings that we hope to hold on the House side, we should be assured that the enforcement draws that proper line and I think the knowing standard is an appropriate one for what are severe criminal penalties.

There may be regulatory provisions in addition, not so much in implementation of this legislation, but more broadly that we should be concerned about reckless conduct in the area of biotechnology generally.

And in fact, the gentleman from Wisconsin has been a leader on the House side in the Judiciary Committee in trying to develop those kinds of standards and it is an appropriate matter of concern, but we ought not to confuse the criminal penalties that are needed in the enforcement of this Convention with the regulatory provisions that ought to govern biotechnological research in general.

Senator THURMOND. Thank you very much. We are glad to have you with us.

Mr. MORRISON. Thank you.

Senator KOHL. Well, thank you gentlemen. It is very kind of you to come over. We——

Senator SIMON. May I ask one question?

Senator KOHL. Yes, Senator Simon.

Senator SIMON. Unfortunately, I have a Foreign Relations committee meeting, so I am going to have to leave soon.

I am all for this, and as I indicated, I want to be a cosponsor, but I can just hear the arguments on the other side.

That list that you gave us, Bruce Morrison, that is a "do gooders" list if I have ever heard any.

Mr. MORRISON. We like "do gooders," do we not, Senator? [Laughter.]

Senator SIMON. You will be told, "There is no way of verifying this. You are asking for unilateral action on our part that we cannot verify on the part of others."

How do either one of you respond to that?

Mr. MORRISON. Well, let me just say that we have ratified this Convention. We have taken on ourselves two responsibilities. One is the direct responsibility of ratification which imposes on the Government of the United States actions not to engage in these forbidden activities. And we have taken on ourselves already the responsibility to prevent this conduct within the United States.

The argument has been made that we already have statutes that take care of the problem, but as Congressman Kastenmeier has quite correctly said, they really are not coextensive with the Treaty and they do not have the kind of criminal enforcement mechanisms that are needed.

So I think the debate is over on the issue of competition and the issue is effective nonproliferation and we have to lead the way.

Senator **SIMON**. And if I could just add to that, in fact, if any Nation uses these weapons against us, we have an arsenal of all kinds of other weapons that we could use in retaliation if it came down to that.

Mr. **MORRISON**. And prevention is the key here, as in so many areas.

Senator **SIMON**. Thank you, Mr. Chairman and I thank both of you.

Senator **KOHL**. Representative Kastenmeier, did you want to respond?

Mr. **KASTENMEIER**. I would only say that I thought Congressman Morrison responded well to that question. It is also, I think, clear that we now perceive it in our self-interest that this be an effective treaty.

As the Senate bill indicates, there is a terrorism aspect to it and we have been concerned about recent developments in terms of the possibility that small countries could have this capability.

But in order to be credible in the world, we have to take this measure, this step not only for purposes of internal monitoring and policing, but to make ourselves externally credible for the purpose of making these demands on other countries and other signatories of the Convention.

I also think that the state of technology is such that we have to be extremely alert to the new capabilities that will exist in this country and worldwide and unless we take this step, we will fall behind and we perhaps will never be able to catch up in terms of truly preventing the possibility of biological warfare.

Senator **SIMON**. I agree.

Senator **KOHL**. Thank you, Senator Simon.

Once again, we thank you gentlemen for coming. You have been very helpful.

Mr. **MORRISON**. Thank you, Mr. Chairman.

Senator **KOHL**. We will keep you posted.

Mr. **KASTENMEIER**. Thank you, Mr. Chairman.

Senator **KOHL**. Senator Heflin, any comments you would like to make? Any opening statement?

Senator **HEFLIN**. Well, I would like to congratulate Senator Kohl, the Chairman, for his activities in bringing this legislation to the attention of the U.S. Senate and showing his leadership in it.

This I believe, is the first hearing that you have chaired. I commend you for the steps that you have taken and the way that you have handled this hearing. I would say that I have observed you since you have been here and you have performed admirably and we look forward to you continuing with those admirable qualities today at this hearing and throughout your entire Senate career.

So we congratulate you and we are enjoying working with you.

Senator KOHL. Thank you, Senator Heflin.

Our next panel consists of three representatives from the administration. Ambassador H. Allen Holmes is Assistant Secretary of State for Politico-Military Affairs. He has been with the State Department for 30 years and he has often testified on chemical and biological weapons.

Ron Noble is Deputy Assistant Attorney General for the Criminal Division of the Justice Department. He is taking a breather from the Iran-Contra case to be with us today.

Thomas Graham, Jr. is General Counsel of the Arms Control and Disarmament Agency. He has been with ADA since 1970, and he kindly agreed to appear despite an extremely heavy travel schedule.

Gentlemen, thank you for appearing here this afternoon. I would appreciate it if you would limit your testimony to 5 minutes and your written statements will be made a part of the record.

Ambassador Holmes, would you like to begin?

STATEMENT OF AMBASSADOR H. ALLEN HOLMES, ASSISTANT SECRETARY OF STATE FOR POLITICO-MILITARY AFFAIRS, DEPARTMENT OF STATE; RON NOBLE, DEPUTY ASSISTANT ATTORNEY GENERAL, CRIMINAL DIVISION, DEPARTMENT OF JUSTICE; THOMAS GRAHAM, JR., GENERAL COUNSEL, ARMS CONTROL AND DISARMAMENT AGENCY

Ambassador HOLMES. Thank you, Mr. Chairman. I do have a statement, which I would like to submit for the record and I would like to make a few brief preliminary comments.

Senator KOHL. Fine.

Ambassador HOLMES. I am very pleased to appear before you today to discuss the foreign policy implications of biological weapons proliferation in the context of S. 993.

I would like to state from the outset that the U.S. Government is adamantly opposed to the development, production, or use of biological weapons and we are committed to doing all we can to eliminate them from the world's arsenals.

In this respect, we find particularly timely the efforts of the Congress to formulate domestic criminal legislation against those who would develop or produce biological weapons or assist foreign nations to acquire them.

Passage of this legislation would send a clear signal to the world that the United States is serious about controlling these deadly, abhorrent weapons.

I particularly wish to express our appreciation to you, Senator Kohl, for your efforts to originate and forward this legislation. We look forward to working with you and other members of the Senate and the House to bring to passage this important legislation.

We may have some suggestions for improving the language in various parts of the proposed bill, but I would defer to my colleague from the Department of Justice for specific comments on the substance of the draft legislation.

Now I would like to make a few comments on the general situation in regard to the proliferation of biological weapons. There are two relevant international agreements, both of which have proven inadequate to prevent the proliferation of biological and toxin weapons.

The 1925 Geneva Protocol prohibits the first use in war of chemical and biological weapons, but not their development, production, possession, or transfer.

The 1972 Biological and Toxin Weapons Convention prohibits the development, production, stockpiling, acquisition, retention and transfer of biological and toxin weapons.

It is clear, however, that neither the BWC nor the Geneva Protocol has proven effective in constraining BW proliferation or for dealing with our very serious concerns about compliance.

The rapid development of technology in the biological field has also led to another set of problems for the Convention. Recent progress in biotechnology and genetic engineering increases the potential for break out from treaty constraints.

When the BWC was negotiated, only the United States acknowledged having biological weapons. Today, several countries are estimated to be working to achieve a BW capability.

Our information on which states are involved in BW programs is based on extremely sensitive intelligence sources and methods. The intelligence community can provide you a full description in closed session.

We are especially concerned about the spread of BW in unstable areas and about the possibility of these weapons falling into the hands of terrorists or into the arsenals of those states which actively support terrorists organizations.

To date, we have no evidence that any known terrorist organization has the capability to employ such weapons, nor that states supporting terrorism have supplied such weapons. However, we cannot dismiss the possibility that terrorists could acquire BW.

We must take vigorous action on the diplomatic level to deal with the problem of BW proliferation. In addition to ensuring that states party to the BWC fulfill their commitments not to acquire BW, we must persuade additional states to make that important commitment.

With respect to the Soviet Union, we have regularly raised concerns about compliance both through diplomatic channels and at the 1980 and 1986 BWC Review Conferences.

We are also considering whether export controls could help reinforce our efforts to prevent the acquisition of biological and toxin weapons by other countries.

Our preliminary impression, however, is that the problem of identifying BW precursors is so difficult that such an export control regime does not seem practical.

We must continue to strive to prevent BMW proliferation by reinforcing the moral, legal and political constraints against BW and where feasible, seek to prevent states from obtaining sensitive materials and technology for BW purposes.

This will be a particularly difficult task, and quite frankly, we do not have the answers yet on how to achieve this. We do know that it will require a sustained multilateral approach involving both U.S. leadership and cooperation with friends and allies.

On the part of the United States, it will require our best efforts to make sure that our own citizens do not contribute to this problem. That is why the legislation before us today, S. 993, is so important.

Thank you.

[The statement of Ambassador Holmes follows:]

STATEMENT TO THE
SENATE JUDICIARY COMMITTEE
ON
THE FOREIGN POLICY IMPLICATIONS OF BIOLOGICAL WEAPONS

BY

H. ALLEN HOLMES

ASSISTANT SECRETARY FOR POLITICO-MILITARY AFFAIRS

DEPARTMENT OF STATE

JULY 26, 1989

United States Department of State
Washington, D.C. 20520

INTRODUCTION

Mr. Chairman, Members of the Senate Judiciary Committee:

I am pleased to appear before you today to discuss the foreign policy implications of biological weapons (BW) proliferation. I welcome the interest demonstrated by the Committee in this problem at this time. A disturbing and dangerous trend has emerged in the recent past in the increasing efforts by states to acquire biological weapons. The technology to produce them is improving apace, and the agents themselves are becoming ever more threatening.

I should like to state from the outset that the United States is adamantly opposed to the development, production, stockpiling, or use of biological weapons. We have renounced any biological weapon capability of our own, have destroyed our stockpile, and are committed to doing all we can to eliminate these weapons from the world's arsenals.

In this respect, we find useful the efforts of the Congress to formulate domestic criminal legislation against those who would develop or produce biological weapons or assist foreign nations to acquire them. We are presently studying the language of the draft legislation, S 993, to determine where we can contribute to the drafting process. I would defer to my distinguished colleague from the Department of Justice for specific comments on the substance of the draft legislation

We feel that passage of such legislation at this time would give a clear signal to the world that the United States is serious about controlling the proliferation of biological weapons. It would signal to terrorists that we are deadly serious about keeping such weapons out of their hands. The legislation is timely and important, and we are grateful to the congress for bringing it forward..

Now I would like to give you some background on the development of U.S. policy on biological weapons and on the present state of play in this area. I will then describe how we are working to achieve our goal of eliminating these weapons.

BIOLOGICAL AND TOXIN WEAPONS CONVENTION

The United States followed up these unilateral actions by leading the fight for an international ban, the 1972 Biological and Toxin Weapons Convention (BWC). Article I of the BWC, confirmed by the treaty's negotiating record, prohibit the development, production, stockpiling and retention of all biological agents "that have no justification for prophylactic, protective or other peaceful purposes." Thus, research for protective and prophylactic defenses against biological weapons continued to be permissable.

The BWC was approved by the U.S. Senate on December 16, 1974 and entered into force on March 26, 1975. All U.S. military stocks of biological and toxin agents, weapons, equipment or means of delivery prohibited by the Convention had already been destroyed unilaterally, pursuant to President Nixon's instructions. Facilities in the United States which had been built and used for biological or toxin weapons purposes were converted to other use. For example, some of the military facilities at Fort Detrick, Maryland and Pine Bluff Arsenal, Arkansas, previously used for BW activities, are now the property of the U.S. Department of Health and Human Services and are used by the National Cancer Institute and the National Center for Toxicological Research.

After the BWC was completed, many thought that the security problem posed by biological and toxin weapons had been solved. However, this clearly is not the case. Despite the limitations of the BWC, which has no verification provisions, we have identified a number of compliance problems. In previous years and again in 1988, President Reagan reported to the Congress that the Soviet Union had continued to maintain an offensive biological warfare program and accompanying capability, and that the Soviet Union had been involved in the production, transfer and use of mycotoxins for hostile purposes in Laos, Cambodia and Afghanistan, in violation of the 1972 BWC. Furthermore, we have yet to receive a satisfactory official explanation of the unprecedented outbreak of anthrax at Sverdlovsk in the Soviet Union in 1979.

Two review conferences for the BWC have been held, in 1980 and 1986, with the next scheduled for 1991. At the two review conferences, the United States confirmed that it is in full compliance with the BWC. At the second review conference, the United States expressed its concern that the Soviet Union, Laos, and Vietnam had violated the Convention. Several other States Party to the Convention also expressed concern about compliance. These concerns are reflected in the Final Declaration of the 1986 review conference, which notes statements that compliance with Articles I, II, and III of the BWC was "subject to grave doubt" and that efforts to resolve the concerns expressed had not been successful. Since then, our concerns have intensified as evidence mounts of BW proliferation, especially in areas of particular concern to us.

U.S. IMPLEMENTATION OF THE BWC

Article IV of the BWC provides that each state "shall, in accordance with its constitutional processes, take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within the territory of such state, under its jurisdiction or under its control anywhere." As you know, several statutes exist that already regulate these noxious weapons, such as the Toxic Substances Control Act and the Arms Export Control Act. These laws prohibit both the manufacturing and transfer of biological toxins.

We recognize, however, that additional domestic criminal legislation addressing biological materials may be useful in further implementing the Convention. We believe that the draft bills now under consideration by the Congress are a useful starting point for such legislation, and we and other agencies are prepared to work with the Committee as the legislation develops.

TECHNOLOGICAL ADVANCES

In addition, the rapid advance of technology in the biological field has led to another set of problems for the Convention. In many ways, recent progress in biological technology increases the ease of concealment of illicit manufacturing plants, particularly for biologically-derived chemicals such as toxins. Verification of the BWC, always a difficult task, has been significantly complicated by the new technology. The ease and rapidity of genetic manipulation, the ready availability of a variety of production equipment, the proliferation of safety and environmental equipment and health procedures to numerous laboratories and production facilities throughout the world, are signs of the growing role of biotechnology in the world's economy. They also make it easier for nations and others to produce the lethal agents banned by the Convention.

As advances are made in the field of biotechnology, the potential for using this technology for biological and toxin weapons increases commensurately. Not only has the time from basic research to mass production of lethal weapons decreased, but the ability to create agents and toxins with more optimal weapons potential has increased. Simply put, the potential for undetected breakout from treaty constraints has increased significantly.

BIOLOGICAL WEAPONS PROLIFERATION

When the BWC was negotiated, only the United States acknowledged having biological weapons. In contrast to the openness we have practiced regarding our military programs, the Soviets, to date, have never officially acknowledged having a biological weapons program, and in fact only admitted in 1987 having a CW program.

Today a number of countries are estimated to be working to achieve a BW capability. Our information on which states are involved in BW programs is based on extremely sensitive intelligence sources and methods and I would defer to the Intelligence Community to provide you a fuller description of these programs in closed session.

We are especially concerned about the spread of biological weapons in unstable areas and about the prospects of biological and toxin weapons falling into the hands of terrorists, or into the arsenals of those states which actively support terrorist organizations. To date, we have no evidence that any known terrorist organization has the capability to employ such weapons, nor that states supporting terrorism have supplied such weapons. However, we cannot dismiss these possibilities. If the proliferation of BW continues, it may be only a matter of time before terrorists do acquire and use these weapons.

U.S. BIOLOGICAL DEFENSE RESEARCH PROGRAM

The unilateral U.S. renunciation of BW in 1969 was accompanied by the recognition that maintaining a strong program to provide for defense against BW is essential for national security. That requirement is reflected in Article I of the Convention which permits production of biological agents and toxins in quantities required to develop protective measures. In today's circumstances, with the concerns about compliance, proliferation and rapid advances in biotechnology, the requirement for defensive measures is even greater than in 1969.

The BWC clearly permits research and development for protection against biological and toxin weapons. The U.S. biological-defense research program is in full compliance with the provisions of the Convention. It is also open to public scrutiny. No other country even comes close in its openness.

ELIMINATING BIOLOGICAL WEAPONS

Vigorous action is needed to deal with the problems that I have just outlined. These problems are tough ones that will not be resolved easily or quickly. But we are determined to deal with them.

What do we need to do? We need to persuade states that are not parties to the BWC, particularly states in the Middle East, to renounce biological and toxin weapons. We have expressed our desire to have consultations with the Soviets under Article V of the BWC, and this continues to be our position. We also need to explore possible means for strengthening the international norms against biological weapons.

In addition to ensuring that states fulfill their commitments not to possess biological or toxin weapons, we must persuade additional states to make that important commitment. Currently more than 110 states have renounced biological and toxin weapons by becoming parties to the BWC. Unfortunately, while most states in the Middle East have signed or acceded to the Convention, only about half have ratified it and deposited their instruments of ratification, the legal steps necessary to become full parties to the Convention. A number of these states have said that they will not take these actions until their neighbors do so. We have recently renewed our efforts to bring all states in the Middle East into the BWC. We will persist in this attempt to break the vicious circle.

We are also carefully considering whether export controls could help reinforce our efforts to prevent the acquisition of biological and toxin weapons by other countries. However, the technical problems are daunting, overshadowing even those associated with chemical weapons control. We are examining whether an export control regime analogous to that of the 20 countries belonging to the Australian Group for controlling the export of chemical weapons precursors would be useful, but our preliminary impression is that the problem of identifying BW precursors and production equipment is so difficult that such a regime is not practical. We will be discussing this with key allies who are equally concerned about the proliferation of BW.

We are also considering new and innovative approaches to making the international arms control regime for biological weapons more effective. We need to strengthen international reaction to deal effectively with proven violations of the ban on use embodied in the 1925 Geneva Protocol, to include international sanctions. We need additional confidence-building measures to create greater openness about biological activities, such as that practiced by the United States with respect to our defensive research program.

The United States has joined with others at the second review conference in calling for an annual exchange of information on each Party's research activities using the United States' policies on program openness as the standard. In this regard, we need to continue programs where researchers from different countries work for extended periods in each other's laboratories. By creating greater openness in these areas, we hope that the norm against biological weapons created by the BWC can be strengthened.

CONCLUSION

We must continue to strive to prevent BW proliferation by reinforcing the moral, legal and political constraints against BW and, where feasible, seek to prevent states from obtaining sensitive materials and technology for BW purposes. This will be a particularly difficult task and, quite frankly, we do not have the answers yet on how to achieve this. We know we cannot do it alone. Our efforts to constrain BW proliferation will require a sustained multilateral approach, involving both U.S. leadership and cooperation with friends and allies. The draft legislation presently under consideration could demonstrate once again our concern and leadership in this area.

Senator **Kohl**. Thank you, Mr. Ambassador.
Mr. **Noble**.

STATEMENT OF MR. RON NOBLE

Mr. **Noble**. Thank you, Mr. Chairman, for inviting me here today on behalf of the Department of Justice to discuss S. 993, the Biological Weapons Anti-Terrorism Act of 1989.

The Department of Justice supports the thrust of this legislation. Although, fortunately, this country has apparently not experienced the deliberate use on United States soil of biological toxins and weapons as a means of terrorist attack, the potential for such use is clearly present and poses a danger that should be promptly addressed.

One necessary step in enhancing this Nation's ability to deter and punish such behavior is the enactment of strong laws to regulate the development, production, and stockpiling of these extremely hazardous materials.

We believe that S. 993 represents a sound approach to regulating biological weapons without jeopardizing legitimate research and that with relatively minor modifications, some of which I shall suggest below, it will be an effective new tool that would fill a gap in our current statutory arsenal against potential terrorist activities.

Under article IV of the International Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological and Toxin Weapons and their Destruction, each signatory state has an obligation to take necessary steps to comply with the Convention within its respective jurisdiction.

Although there is some debate as to whether legislation implementing the Convention is still required, it is plain that this bill would fulfill any remaining obligation of the United States to enact such legislation.

We also believe that the bill would be a useful law enforcement measure because it would enable the Department of Justice to prosecute individuals who possess dangerous biological materials for no legitimate purpose without having to wait for the materials to be misused.

Turning now to our proposed revisions or concerns. The opening clause of section 175 appears to be an effort to give the bill extraterritorial applicability. However, we have some concern with the language in the bill which is not consistent with other portions of title 18, which have extra territorial application.

This area is one that should be studied to determine if there is a more appropriate means of achieving the desired results.

In paragraphs 1 and 2 of section 175, and in paragraphs (a)(1) and (a)(2) of section 176, we would insert "biological" before "agent."

Although the title of the bill and the definitions imply that the bill controls biological as opposed to chemical agents, this needs to be made explicit within the operative language.

We agree with the inherent intent of the bill to reach criminal conduct designed to aid international terrorists organizations and foreign governments. Again, however, we believe the language in the bill may be open to improvement, particularly as regards to definition of "international organization." We hope to develop a specific proposal for the committee's consideration in this regard.

Turning now to the burden of proof, intent, and defenses. We have a number of concerns about the burden of proof, intent, and defense portions of the bill.

While we are, of course, concerned that legitimate research activities not be chilled by an excessively low intent requirement, we are also mindful of the difficulties which are presented to the prosecution when the burden is placed wholly on the government to show criminal intent in the possession type offenses.

We thus believe that those portions of the bill which touch upon these elements, sections 175, 176, and 177, should be very carefully reviewed. Again, we hope to develop specific proposals for the committee's consideration in this regard.

Wiretap predicate; violations of section 175 require the Government to prove the existence of criminal intent. Often, such proof is unavailable except through the use of electronic surveillance or informant information.

Therefore, we recommend that this bill contain a provision amending 18 U.S.C., section 2516 to include violations of section 175 as predicates for court ordered interception of wire, oral or electronic communications.

Regarding forfeiture, section 176 authorizes forfeiture of biological weapons. We strongly recommend that section 176(c) of the bill, which incorporates the forfeiture procedures applicable under 18 U.S.C., Section 924(d) to firearms, be modified to exclude reference to the special proviso under 924(d) which requires that a firearm be returned to the owner or possessor in the event of an acquittal or the dismissal of the indictment.

While this unique provision is arguably justified in the special context of firearms forfeitures, it is clearly inappropriate in our view in the area of biological weapons.

In this area, if the Government can establish its forfeiture case by the necessary standard of proof, the fact that criminal charges have been dismissed or that the defendant was acquitted should not defeat forfeiture and thereby cause dangerous materials to have to be returned to their owner.

Moreover, consideration should be given to amending section 176(c) to incorporate other forfeiture schemes such as those relating to controlled substances with which the Department of Justice is more familiar.

The section currently referenced by S. 993, 18 U.S.C., 924(d), essentially adopts the forfeiture procedures applicable under the Internal Revenue Code, provisions which are enforced by the Department of Treasury.

This concludes my statement. I will be glad to address any specific questions the committee may have.

[The statement of Mr. Noble follows:]

Department of Justice

TESTIMONY

OF

RONALD K. NOBLE

DEPUTY ASSISTANT ATTORNEY GENERAL

CRIMINAL DIVISION

U.S. DEPARTMENT OF JUTICE

BEFORE THE

SENATE JUDICIARY COMMITTEE

CONCERNING

S. 993, THE BIOLOGICAL WEAPONS ANTI-TERRORISM ACT OF 1989

ON

JULY 26, 1989

Thank you for inviting me to appear here today on behalf of the Department of Justice to discuss S. 993, the Biological Weapons Anti-Terrorism Act of 1989.

The Department of Justice supports the thrust of this legislation. Although fortunately this country has apparently not experienced the deliberate use on United States soil of biological toxins and weapons as a means of terrorist attack, the potential for such use is clearly present and poses a danger that should be promptly addressed. One necessary step in enhancing this nation's ability to deter and punish such behavior is the enactment of strong laws to regulate the development, production, and stockpiling of these extremely hazardous materials. We believe that S. 993 represents a sound approach to regulating biological weapons, without jeopardizing legitimate research, and that, with relatively minor modifications, some of which I shall suggest below, it would be an effective new tool that would fill a gap in our current statutory arsenal against potential terrorist activities.

Introduction

Under Article IV of the International Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and their Destruction, each signatory state has an obligation to take necessary steps to comply with the Convention within its respective jurisdiction. Although there is some debate as to whether legislation implementing the Convention is still required, it is plain that this bill would fulfill any remaining obligation of the United States to enact such legislation. We also believe that the bill would be a useful law enforcement measure because it would enable the Department of Justice to prosecute individuals who possess dangerous biological materials for no legitimate purpose, without having to wait for the materials to be misused.

Turning now to our proposed revisions or concerns:

Extraterritorial Applicability

The opening clause of section 175 appears to be an effort to give the bill extraterritorial applicability. However, we have some concern with the language in the bill, which is not consistent with other portions of Title 18 which have extraterritorial application, (e.g. 18 U.S.C. §§ 7(7) and 1512(g)). This area is one that should be studied to determine if there is a more appropriate means of achieving the desired result.

Biological vs. Chemical Agents

In paragraphs (1) and (2) of section 175 (and in paragraphs (a)(1) and (2) of section 176, and in paragraph (a)(3) of section 177), we would insert "biological" before "agent." Although the title of the bill and the definitions imply that the bill controls biological as opposed to chemical agents, this needs to be made explicit within the operative language.

Coverage of International Organizations and Foreign Governments

We agree with the apparent intent of the bill to reach criminal conduct designed to aid international terrorist organizations and foreign governments. Again, however, we believe the language in the bill may be susceptible to improvement, particularly as regards the definition of "international organization." We hope to develop a specific proposal for the Committee's consideration.

Burden of Proof, Intent and Defenses

We have a number of concerns about the burden of proof, intent and defense portions of the bill. While we are of course concerned that legitimate research activities not be chilled by an excessively low intent requirement, we are also mindful of the difficulties which are presented to the prosecution when the burden is placed wholly on the government to show criminal intent in possession-type offenses. We thus believe that those portions of the bill which touch upon these elements (e.g., sections 175, 176 and 177) should be very carefully reviewed. Again we hope to develop specific proposals for the Committee's consideration.

Wiretap Predicate

Violations of section 175 require the Government to prove the existence of criminal intent. Often such proof is unavailable except through the use of electronic surveillance or informant information. Therefore, we recommend that this bill contain a provision amending 18 U.S.C. § 2516 to include violations of section 175 as predicates for court ordered interception of wire, oral or electronic communications.

Forfeiture

Section 176 authorizes forfeiture of biological weapons. We strongly recommend that section 176(c) of the bill, which incorporates the forfeiture procedures applicable under 18 U.S.C. § 924(d) to firearms, be modified to exclude reference to the special proviso under section 924(d) which requires that a firearm be returned to the owner or possessor in the event of an acquittal or the dismissal of the indictment. While this unique provision is arguably justified in the special context of firearms forfeitures, it is clearly inappropriate, in our view, in the area of biological weapons. In this area, if the government can establish its forfeiture case by the necessary standard of proof, the fact that criminal charges have been dismissed or that the defendant was acquitted should not defeat forfeiture and thereby cause these dangerous materials to have to be returned to their owner. See, e.g., United States v. One Assortment of 89 Firearms, 465 U.S. 354 (1984). Moreover, consideration should be given to amending section 176(c) to incorporate other forfeiture schemes, such as those relating to controlled substances, with which the Department of Justice is more familiar.

The section currently referenced by S. 993, 18 U.S.C. § 924(d), essentially adopts the forfeiture procedures applicable under the Internal Revenue Code, provisions which are enforced by the Department of the Treasury rather than (as is contemplated here for section 176(c)) by the Department of Justice.

Speech Not Actionable

Section 177 authorizes injunctive proceedings. It appears that, under paragraph (2) of Part (a), an injunction could be sought for "planning" to engage in prohibited conduct. We suggest that this term be stricken to make clear that mere speech is not actionable.

Violations by Agencies of the Government

Current section 178(6) (which should probably be 178 (a) (6)), explicitly states that the bill's provisions cover actions by "governmental entities and personnel." Although the language of the bill is somewhat different from that of the Convention, we assume that the bill's intent is to go no further than the requirements of the Convention. A difficulty with specifically including governmental entities and personnel within this bill is that, in light of sections 176 and 177, the bill permits the United States to sue itself if there is a violation by an agency of the federal government. This provision thus may violate the presumption that the sovereign cannot sue itself.

This concludes my statement. I will be glad to address any questions the Committee may have.

Senator KOHL. Thank you, Mr. Noble.
Mr. GRAHAM.

STATEMENT OF MR. THOMAS GRAHAM, JR.

Mr. GRAHAM. Thank you, Mr. Chairman.

Mr. Chairman, I strongly support what Ambassador Holmes has already said. The Arms Control and Disarmament Agency favors legislation further to implement in domestic law the Biological Weapons Convention. And we, along with the State Department and other executive branch representatives, stand ready to work with Congress on how we can best achieve that objective.

We would, of course, defer to the Justice Department on language best suited to meet its criminal sanction and other legal objectives, but the common interests we all share should facilitate agreement.

The Justice Department has for years sought domestic legislation imposing criminal sanctions on illicit biological activities. We also believe additional domestic criminal legislation addressing biological materials would be useful in further implementing the BWC.

And as you, Mr. Chairman, pointed out when you introduced S. 993 on May 16, 1989, "even if this legislation were not required by the 1972 Convention, we would still be wise to enact a bill to help combat terrorism.

"Surprisingly, there is no uniform statute that criminalizes the development of biological devices or organisms that are meant to kill others.

"We cannot rely on existing statutes that may arguably regulate one or another aspect of the problem—for instance, the Toxic Substances Control Act. The prospects of biological terrorism are too ghastly to permit a loophole in our law."

In the recent past, the executive branch view has been that no implementing legislation is required. That judgment primarily was based on the perception that potential violators were most likely to be states rather than commercial firms or private individuals.

However, in the last few years, two developments have occurred to lead us to conclude that legislation probably is desirable. These are the explosion of biotechnology in both basic research and applied technology, and the apparent interest in obtaining BMW capabilities demonstrated by several nations.

We thus have a convergence and mutuality of interests on this type of legislation. The draft legislation before this committee and its House counterpart, H.R. 237, are in part patterned after BWC legislation first proposed by the executive branch in 1973, after the BWC was signed, but before the Senate consented to its ratification.

Some related legislation, such as the Toxic Substances Control Act, has been enacted. However, so much has changed since 1973. We need a cooperative effort to best satisfy all our concerns.

These are the biotechnology explosion, deterring harmful biological traffic and terrorism, applying domestic criminal sanctions, and doing all we can to curtail the international proliferation of biological weapon capabilities.

The last is ADA's principal concern, but we stand ready to work with you and other agencies to build on S. 993 in a way best suited to multiple needs in a world of rapid biological technology evolution.

Thank you, Mr. Chairman.

[The statement of Mr. Graham follows:]

STATEMENT BEFORE THE SENATE JUDICIARY COMMITTEE ON S. 993, THE BIOLOGICAL WEAPONS ANTI-TERRORISM ACT OF 1989

BY

THOMAS GRAHAM, JR,

GENERAL COUNSEL

U.S. ARMS CONTROL AND DISARMAMENT AGENCY

JULY 26, 1989

Mr. Chairman, I strongly support what Ambassador Holmes has already said.

The Arms Control and Disarmament Agency favors legislation further to implement in domestic law the Biological Weapons Convention, and we, along with the State Department and other Executive Branch representatives, stand ready to work with Congress on how we can best achieve that objective. We would of course, defer to the Justice Department on language best suited to meet its criminal sanction and other legal objectives, but the common interests we all share should facilitate agreement.

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And, as you, Mr. Chairman, pointed out when you introduced S. 993 on May 16, 1989:

> "... even if this legislation were not required by the 1972 convention, we would still be wise to enact the bill to help combat terrorism. Surprisingly, there is no uniform statute that criminalizes the development of biological devices or organisms that are meant to kill others. We cannot rely on existing statutes that may arguably regulate one or another aspect of the problem -- for instance, the Toxic Substances Control Act. The prospects of biological terrorism are too ghastly to permit a loophole in our law."

In the recent past, the Executive Branch view has been that no implementing legislation is required. That judgment primarily was based on the perception that potential violators were most likely to be States rather than commercial firms or private individuals. However, even in the last few years, two developments have occurred to lead us to conclude that legislation probably is desirable. These are the explosion of biotechnology, in both basic research and applied technology, and the apparent interest in obtaining BW capabilities demonstrated by several nations.

We thus have a convergence and mutuality of interests on this type of legislation. The draft legislation before this Committee and its House counterpart, H.R. 237, are, in part, patterned after BWC legislation first proposed by the Executive Branch in 1973, after the BWC was signed but before the Senate consented to its ratification.

Some related legislation, such as the Toxic Substances Control Act, has been enacted. However, so much as changed since 1973, we need a cooperative effort to best satisfy all our concerns; the biotechnology explosion, deterring harmful biological traffic and terrorism, applying domestic criminal sanctions, and doing all we can to curtail the international proliferation of biological weapon capabilities. The last is ACDA's principal concern, but we stand ready to work with you and other agencies to build upon S. 993 in a way best suited to multiple needs in a world of rapid biological technology evolution.

Senator KOHL. Thank you, Mr. Graham.

Before we proceed to questions, I would just like to say that I appreciate very much, gentlemen, your endorsement of this legislation.

President Bush has expressed his desire to rid the planet of chemical and biological weapons, and I am glad the administration sees our bill as part of that effort.

And if the bill needs some fine tuning, I look forward to working with you on that.

Ambassador Holmes, I would like to ask you about the prospects of bioterrorism. In your prepared testimony, you say "it may be only a matter of time" before terrorists use these weapons.

Just how serious of a threat do you regard bioterrorism?

Ambassador HOLMES. Well, we regard it, Mr. Chairman, as a threat because of the difficulty in identifying the precursors, the substances which canvas one of your two colleagues from the House noted, a very minute amount of a disease or a toxic poison can have disastrous effects on a wide scale.

So even though, as I said in my testimony, we do not have any evidence indicating that terrorists have acquired some of the more sophisticated methods for delivering these kinds of deadly materials, air assault bombs and that kind of thing, nor do we have evidence that any particular country advocating terrorism has delivered these materials to terrorists, given the stealth with which this material can be developed and hidden and used, we do consider it a serious potential threat.

Senator KOHL. Ambassador Holmes, in your testimony you said that, "a number of countries are working on biological weapons." Last May, at a Governmental Affairs hearing, the Defense Department said there are at least 10 countries believed to be developing such weapons. Is that figure still accurate, and can you tell us which countries?

Ambassador HOLMES. I believe that figure is still accurate, although I have not had an intelligence briefing on that recently in the last several weeks. And I would prefer not to mention—it is known, of course—that we consider the Soviet Union to have this capability. We have published that in the President's Arms Control Compliance Report to Congress, but as far as the other countries are concerned, this is based on very sensitive intelligence sources and methods and I would respectfully refer you and the committee to perhaps a closed hearing by the intelligence community on those other countries.

Senator KOHL. Do you think that passage of this legislation would encourage the Soviet Union to stop their capability?

Ambassador HOLMES. I think that plus continued diplomatic efforts on our part to engage the Soviets in article V discussions should have that effect. We have been pursuing this with the Soviets for some time, as you know, and this is continuing. We are having exchanges with them about this subject and what we are trying to do is to encourage them to use the same glasnost, to use their word, that we have demonstrated in the way we have exposed our legitimate activities in the laboratory for defensive purposes to public scrutiny. And this process has begun in part as a result of the Second Review Conference in 1986. We have already exchanged some information. I think last year we identified, for example, a total of six laboratories of which two are defense related, while the Soviets listed 16 such facilities, five of which are defense related.

But we want to pursue questions with them under article V, both with respect to Sverdlovsk and also to acquire—to encourage them to be as open about the activities at those laboratories as we have been about our laboratories.

Senator KOHL. Ambassador Holmes, CPA Director Webster has identified some of the nations building chemical weapons. He did this to bring world pressure to bear on these nations.

Do you think it would make sense to identify the nations working on biological weapons to put the same kind of pressure on them?

Ambassador HOLMES. It is possible that this would be useful to do under certain circumstances, but again, I would not like to make a definitive judgment on that without having the advice of the intelligence community on this subject.

Senator KOHL. Thank you.

Mr. Noble, you have made a number of suggestions for improving the bill and we appreciate that. We understand that all of the interested agencies met yesterday to discuss some of your ideas.

How soon do you think Justice and the other departments can get us some specific proposals?

Mr. NOBLE. It is our goal that we would work during the next several weeks with that as an objective that perhaps at the conclusion of 1 or 2 weeks we would have some very specific recommendations for this committee's consideration.

Senator KOHL. Ambassador Holmes, do you think that is a reasonable timetable?

Ambassador HOLMES. I think I would defer to the Justice Department on that.

Mr. NOBLE. I believe it is a reasonable timetable. [Laughter.]

Senator KOHL. Well, we will accept that.

Mr. Noble, Congress I am sure would not want to chill legitimate research in any way. Is the bill's purpose clear enough—that Justice should not prosecute those engaged in medical or agricultural research?

Mr. NOBLE. Yes, I believe that the bill is expressly clear that the target of this bill is biological agents or toxins for use as a weapon of mass destruction, not for research, but for use as a weapon of mass destruction.

Whether we are pursuing a criminal prosecution or a seizure or forfeiture, we are going to have to satisfy that element and it is a very difficult element to satisfy and well it should be, because the activity we are trying to eliminate is very, dangerous activity. You can be assured that the Justice Department will take great care in investigating cases that might fall under the jurisdiction of this particular statute.

For reasons that are very obvious, it is not the kind of investigation that one would pursue casually or with a cavalier attitude. Our major objective is consistent with that of this committee and the Chairman and that is to ensure that our society is protected from individuals or entities or organizations who knowingly develop biological toxins or agents for use as weapons of mass destruction.

Senator KOHL. Thank you.

Mr. Noble, there is one substantive difference between our bill and Congressman Kastenmeier's. H.R. 237 says that in civil injunction proceedings defendants have the burden of proving that their conduct is for a peaceful purpose. We have removed this language.

So our question, Mr. Noble, is which approach does the Justice Department prefer?

Mr. NOBLE. Mr. Chairman, that was one of the issues that we discussed yesterday and I would appreciate if this committee would give us some time to give that some more thought.

One of the things we were considering was whether the intent of this committee was to in fact have a different standard from the House bill.

We certainly are aware that the word "affirmative" is not in your bill. We were not clear whether that was your intention or whether you thought it was clear that an affirmative offense would be what was required without it being expressly stated.

But certainly in our specific recommendations we will address that very critical issue.

Senator KOHL. Mr. Graham, it is my understanding that many treaties are followed by legislation that conforms our domestic law to our international obligation.

In your opinion, does article IV of the Biological Weapons Convention require something like S. 993?

Mr. GRAHAM. Well, it is perhaps, Mr. Chairman, debatable whether it actually requires something precisely like S. 993. Clearly, it contemplates that domestic legislation will be enacted. It is arguable to what degree this requirement has been met in the past by statutes referred to in the testimony today, the Toxic Substance Act and so forth, but certainly the enactment of S. 993 would be a very positive step as far as U.S. implementation of article IV is concerned.

Senator KOHL. Mr. Graham, in 1986, parties to the BWC held a second international conference to review the treaty. The conference called on governments to enact measures that would guarantee compliance within each nation's own territory.

There will be a Third Review Conference in 1991. Our question is, when the United States goes back to Geneva, will we be in a better position to urge compliance by other nations if we have enacted this legislation?

Mr. GRAHAM. In my judgment, we would be in a better situation at the 1991 Review Conference with this legislation on the books.

Senator KOHL. Mr. Graham, do you have any thoughts on our bill's wording?

Mr. GRAHAM. Well, in general, I would defer to the Department of Justice on this. I attended the meeting yesterday. It would appear that some changes are in order. We will—all of us in the executive branch will work on this. I think it is a very good foundation on which to build and probably with just a few changes here and there it will be in proper shape for enactment.

Senator KOHL. Thank you, Mr. Graham.

Senator Thurmond?

Senator THURMOND. Thank you, Mr. Chairman.

Ambassador Holmes, new technology has significantly complicated verification of the Biological Weapons Convention. In addition, you note that the Soviets have never acknowledged having a biological weapons program.

In your opinion, how will we be able to improve verification worldwide, especially with respect to the Soviets who claim not to have any such program?

Ambassador HOLMES. Senator, you have put your finger, I think, on one of the weaknesses of the 1972 Convention, which has no verification provisions. This was at that time an extremely difficult problem to deal with, primarily because the substances involved, the precursors are dual-use substances that have legitimate purposes as well as possible deadly purposes and you have pointed toward the biotechnological revolution and the development of novel agents. This compounds the difficulty of verification and I have to be frank with you in saying that we have no ready solution to this problem, but we do believe that it is important.

The one instrument we have is the light of public exposure. We think it is very important to bring increasingly into the open the activities in this field which are supposed to be legitimate for defense purposes and medical purposes, so as to increase the possibility that any illegitimate activity would be more easily discovered.

Now as far as the Soviets are concerned, they have never admitted that they have such a program, but we intend to continue pushing them in our exchanges to answer the questions to which we have never had satisfactory responses with respect, first, to the outbreak of pulmonary anthrax in the Sverdlovsk in 1979 and also related questions with respect to the laboratories which they have identified in their reports called for in the 1986 Review Conference.

Senator THURMOND. Mr. Graham, the proposed legislation addresses the use of biological weapons and related agents. It would prohibit the production of material which could be supplied to terrorist organizations and nations which support terrorism.

Would you discuss the effect this legislation would have on our national security?

Mr. GRAHAM. Senator Thurmond, any step that we can take which will diminish the terrorist threat would add to U.S. national security. In that regard, I believe this legislation would be helpful in strengthening our security.

Senator THURMOND. Mr. Noble.

Mr. NOBLE. Good afternoon, Senator.

Senator THURMOND. In your prepared statement, you state that the Department of Justice supports the thrust of this legislation.

Please discuss whether this legislation would prohibit the Defense Department's research into biological weapons, which has been intended to be purely defensive.

Mr. NOBLE. Mr. Thurmond, in the Department's view, this would not prohibit or chill legitimate research. The way the language of the bill is crafted, we believe it focuses on use as a weapon of mass destruction. And that, in and of itself, will prevent legitimate research from being chilled in the view of the Department, especially when you couple it with the discretion that the Department of Justice exercises in prosecutions, seizures, or forfeitures that it pursues.

Senator THURMOND. Mr. Noble, the Department of Justice has recommended changes to this legislation, and would you discuss the Department's recommendation that the bill contain a provision to provide for court ordered wiretaps?

In addition, would you discuss the Department's concerns surrounding the current burden of proof and defense portions of the bill?

Mr. NOBLE. Regarding the use of wiretaps, it is very important when you are investigating cases that might have a terrorist component that you have the most surreptitious means available to you in order to investigate the case for purposes of prosecution.

For that reason, we would really, request or encourage that serious consideration be given to including this as a predicate for wiretaps.

Some of the most important cases that the Department of Justice has made have come as a result of court authorized wiretaps.

Concerning the defenses that are available, without answering the question as to what the ultimate recommendation will be, I would just highlight for the committee concerns that could be raised.

Let me give you the following scenario. Let us assume that the United States, through sensitive intelligence or source methods, are able to retrieve information suggesting various individuals are contemplating stockpiling or developing biological weapons for use as a weapon of mass destruction.

We know that because of the way we retrieve the information or because of sources that have given us the information that we might not be able to expose those individuals or those methods to public disclosure that would be required in the context of a criminal prosecution or court prosecution.

Nonetheless, while concealing their identity, we may be able to seize the biological weapons and neutralize the situation, shifting the burden to the individuals to demonstrate by a preponderance of the evidence or whatever the appropriate standard is that in fact the weapon, so called weapon, is not a weapon and it is not an agent or toxin that exists by reason of conduct for use as a weapon of mass destruction or/and it is primarily useful as a weapon mean as a primarily useful in a peace context or a peaceful context.

Our concern is that we may not be able to fully litigate issues if the burden is completely on us and we may not be able to neutralize situations that you would want us to neutralize. That is one of the concerns that we hope to address and resolve and come back to this committee with a specific recommendation as to whether the defense provision should be a general defense provision or whether it should be an affirmative defense provision.

Senator THURMOND. I want to thank you witnesses very much. That is all the questions I have, Mr. Chairman.

Senator KOHL. Mr. Noble, I would like to follow up on your hypothetical. Do we shift the burden of proof in other areas of the law? Is there a precedent?

Mr. NOBLE. Affirmative defenses—it is a rare case. I want to be very candid. It is a rare case where the defendant has a burden to come forward and persuade the decision maker. I just want to highlight one point. As it is currently framed, in the criminal context the Government still has the burden to prove beyond a reasonable doubt that the agent or toxin or delivery system is going to be used or it is being held or possessed for use as a weapon of mass destruction. We have to prove that beyond a reasonable doubt in order to convict someone criminally.

So in that situation, they would not have to come forward with any defense. We have to prove that its use would be as a weapon of mass destruction.

What I am concerned about am just raising the concern without reaching a conclusions the context of the seizure or forfeiture provision. We are not seeking criminal prosecution. You are seeking to neutralize a situation and in doing so you go to a magistrate, or if you have reason to observe it, you go with probable cause. You neutralize the situation and then it is litigated as to whether or not its use is as a weapon or there is some peaceful purpose for it.

We believe any organization or any entity, assuming this were the conclusion, could come forward and say, "We are doing this project for this particular corporation. We have these legitimate objectives that we are seeking to achieve." But with a person who—let us say there is some crazy person out there who is very, adept at developing biological weapons, but let us say the person just wants to develop them and possess them, not for use as a weapon of mass destruction, but just because the person is a quirk and wants to collect them, in that situation the Government should be able to seize it, shift the burden on to the person to just come forward and persuade by a preponderance of evidence more likely than not that its primary use would be for a peaceful purpose and not as a weapon of mass destruction.

These are just concerns that I raise that we have been debating within the executive branch and we hope to come to a resolution of it and make a specific recommendation to this committee.

Overall, we think it is a very good bill and a very necessary bill.

Senator KOHL. I would like to mention that the Department of Defense had the opportunity to testify this afternoon and they decided not to do so. I am told that representatives from the Pentagon are in the audience, and I want to make it clear on the record that S. 993 would not affect the biological defense research activities at Fort Derrick. Senator Pryor and I have made this point before, and this remains our objective.

Ambassador Holmes, Mr. Graham, Mr. Noble, I would like to thank you very much for appearing here this afternoon. You have been excellent witnesses and we look forward to working with you to the consummation of the bill. Thank you very much for coming.

Before we get to the next panel, I want to use this opportunity to insert some items into the hearing record.

First, I think it is important that we include a copy of the BWC itself. Second, I received letters from prominent individuals and organizations that support this bill. For example, the American Public Health Association has written on behalf of its 55,000 members. I would like to insert these materials at the end of the record, along with a copy of S. 993.

I also want to include some important written testimony from Francis Boyle, a professor of international law at the University of Illinois. I invited Professor Boyle to be with us this afternoon, but we was unable to make it. However, he submitted his analysis for the record. Professor Boyle has studied existing laws that touch on the problem of bioweapons. He concludes that they are inadequate to the task. If there is no objection, I will put this too at the conclusion of the record.

And now we would like to get on with our third panel. Our first witness is Ambassador James Leonard, who headed the U.S. delegation that negotiated the Biological Weapons Convention in Geneva. This was in 1970. Ambassador Leonard worked for 21 years in the State Department and he participated in the Middle East peace talks.

With him is Richard Godown, the President of the Industrial Biotechnology Association. IBA is an organization that represents almost 100 biotechnology companies. Mr. Godown is an attorney and has been with the IBA since 1985.

And finally, we have Dr. Barbara Rosenberg, a Molecular Biologist at the Memorial Sloan-Kettering Institute for Cancer Research. Dr. Rosenberg is a professor of environmental science at the State University of New York and she has written numerous articles about biological weapons.

I want to welcome you all and thank you for your patience. Again, I would appreciate it if witnesses could summarize their testimony in 5 minutes, and we will put your written statements into the record.

Ambassador Leonard, would you like to begin?

STATEMENT OF AMBASSADOR JAMES F. LEONARD, HEAD OF DELEGATION, BIOLOGICAL WEAPONS CONVENTION NEGOTIATIONS; RICHARD GODOWN, PRESIDENT, INDUSTRIAL BIOTECHNOLOGY ASSOCIATION; AND DR. BARBARA HATCH ROSENBERG, MOLECULAR BIOLOGIST, MEMORIAL SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH

Ambassador **LEONARD**. Thank you very much, Mr. Chairman.

Mr. Chairman, I want to support the enactment by the Congress of legislation to implement the Biological Weapons Convention.

The argument is very simple. We committed ourselves in the treaty negotiations to action along these lines and we ought to keep our commitment.

I was, as you have noted, the head of the U.S. delegation during these negotiations, and a number of aspects of this Convention were in fact quite controversial at that time and some of them have become even more controversial since then.

A good bit of this record is summarized in the written testimony of Ambassador Holmes, which you have.

This particular provision, however, was not controversial in 1970 or 1971 when we were negotiating and it has not been controversial since then.

There was a consensus among the negotiating parties that because we have very different political and legal systems and no two national systems are precisely identical in the force that they assign to treaty obligations within their own domestic legal systems, it, therefore, was desirable to complement the prohibitions and the undertakings of the first three articles of the treaty with the sort of provision that became article IV.

This article, as been noted by the previous witnesses, adds to the obligations of those first three articles, which are accepted by the states' party to the treaty, by committing them also to put these obligations on their citizens and their residents.

Thus, not only the U.S. Government is barred by the treaty from developing biological weapons, it is also committed to bar its citizens from doing so.

The treaty calls on each party to take this additional action in accordance with its constitutional processes. In our case, of course, this means a law passed by the Congress and signed by the President.

It is not, Mr. Chairman, I think an optional action. It could have been made optional by using the word "may" rather than "shall" in the text of article IV. But the use of the word "shall" was not accidental. It was not simply something that we dreamed up on the spur of the moment there in Geneva. It was used under clear instructions from the Secretary of State, instructions which had been reviewed and had been approved by all the relevant agencies of the U.S. Government.

In fact, it was far from controversial. Within the U.S. Government, it was actively desired by us because there was feeling with some officials within the U.S. Government that perhaps the Soviet Union or some other government might take advantage of any loophole that there was in the treaty and utilize it, and article IV was seen as sealing off a possible loophole.

Others will, as they have told you here this afternoon, will provide detailed comment on the text of the treaty. I do have one or two thoughts on that, which perhaps we could get to after we have presented our prepared statements here.

But I would like to offer a concluding comment which comes from someone who spent his life more or less as a professional negotiator. I think there are a couple of basic rules if you are going to be a good negotiator and one of them is never to bluff, by which I mean never to make threats that you cannot carry out. And the other side of that is never to over promise and promise to do things that you or your government are not going to be able to follow through on.

You can get away with that kind of stuff for a time, but then your credibility will erode and eventually disappear and that applies to a nation. And it is for that reason that I take very seriously the failure of the United States now more than 10 years after the negotiation of this treaty, 20 years from the time we began actively to work on it, to follow through on the commitment of article IV.

This moreover has a current aspect to it. The U.S. Government wants very badly a treaty which will follow up on the Biological Weapons Treaty and will prohibit possession of chemical weapons. I think there is virtual unanimity on this subject and I noted recently the letter which 73 members of the Senate signed to encourage the President to proceed expeditiously on that negotiation.

It is being negotiated now in Geneva. It is going to have very complex procedures. The treaty is this thick in its present draft form and not all of the annexes have been completed by any means. And in particular, it is going to place very complicated and even onerous requirements on the U.S. chemical industry.

It will be difficult for our negotiators to persuade other governments that we are serious about all of this, that we really are going to go through with this chemical weapons treaty and that we are going to accept all of these constraints on our own chemical industry, if we are not able to do something as simple as what you have proposed here in this bill that you have put before the Senate.

I, therefore, hope very much that you are successful in this, and I am grateful that you have taken this initiative.

Thank you.

[The statement of Ambassador Leonard follows:]

Testimony of
Ambassador James F. Leonard
before the
Senate Judiciary Committee
on
Biological Weapons

July 26, 1989

Mr. Chairman:

I wish to support the enactment by the Congress of legislation to implement the Biological Weapons Convention. My argument is very simple: we committed ourselves in the treaty negotiations to action along these lines, and we should keep out commitment.

I was the head of the United States delegation during these negotiations -- from early 1969 to late 1971. A number of aspects of the Biological Warfare Convention were controversial then or have become controversial since, but not this provision. There was a consensus among the negotiating parties that since no two national legal systems are precisely identical in the force and effectiveness they assign to treaty obligations within their own domestic legal systems, it was desirable to complement the prohibitions and undertakings of Articles I, II, and III with the sort of provision that became Article IV. This article adds to the obligations that the states parties accept under the treaty by committing them also to extend these obligations to their citizens and residents. Thus, not only is the U.S. Government barred by the Treaty from developing biological weapons, etc., it is also bound to bar its citizens from doing so.

The treaty calls on each party to take this additional action "in accordance with its constitutional processes." In our case, this of course means a law passed by the Congress and signed by the President. It is not an optional action. It could have been made optional by using the work "may" rather than "shall" as the seventh word of Article IV. The use of the word "shall" was not an accident, or an impulse on the part of the negotiators; it was used under clear instructions from the Secretary of State, instructions which had been reviewed and approved in all the relevant departments of our government. Far from being controversial within the U.S. Government or accepted reluctantly under pressure from other governments, Article IV was actively desired by us. It responded to fears on the part of some officials that the Soviet Union or some other government might diligently search out and utilize any loophole that the treaty left. Article IV was thus seen as a necessary "sealing off" of one possible loophole through which the treaty could be drained of its effectiveness.

Others will have to provide detailed comment on the particular provisions of the bill you are considering, or on the dangers which might arise if research is not properly constrained by legislation, or is *improperly* constrained. I would like to offer only a concluding comment from the vantage point of a professional negotiator. There are two basic rules which I believe successful negotiators have observed for many centuries. They are (1) never bluff, never make threats that cannot be carried out, and (2) never over-promise, never agree to do things that cannot be done. A negotiator may get away with unreal threats or promises for a time, but only for a time. And then his credibility and his ability to negotiate effectively will be finished. What applies to an individual applies also to a nation, and it is for this reason that I take very seriously our failure so far to follow through on a commitment – however secondary – of the sort we are discussing here.

Our government wants a treaty which will follow up on the BW Convention by prohibiting possession of chemical weapons. It is being negotiated in Geneva, just now. It will be far more complex than the BW Convention, with intricate and even onerous obligations controlling domestic chemical industry. How can our negotiators be fully effective in persuading the Soviets and others to accept these obligations if they cannot be confident that the U.S. Government, and in the first instance the Congress, will move in a timely way to meet our obligations under a CW Treaty and institute appropriate controls within our domestic jurisdiction? The legislation you are considering will help to establish confidence abroad and thus help to answer this important question. This legislation is thus very much in our security interest.

Senator KOHL. Thank you, Ambassador Leonard.

Mr. Godown?

STATEMENT OF MR. RICHARD GODOWN

Mr. GODOWN. Senator Kohl, the biotechnology industry is adamantly opposed to the development of biotechnology weapons, period.

The IBA Board of Directors is firmly on record endorsing the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological and Toxin Weapons and their Destruction, and it is generally supportive of implementing legislation. In fact, we would be delighted to work with you and your staff in perfecting S. 993.

I would like to take this opportunity to point out that contrary to popular belief, biological weapons can be produced without the use of the techniques of modern biotechnology. There is no need for terrorists to genetically engineer a biological weapon when a vial of AIDS virus or botulin or anthrax or salmonella to name just a few can already produce deadly results. It would be pointless to genetically engineer an organism to do what normally occurring organisms can already do.

IBA's chief concern about the enabling legislation which is now in front of the committee is that peaceful research utilizing biological agents might be restricted in some manner.

It is important not only to the biotechnology industry, but the broader biomedical research community that any legislation allow continued research toward developing prophylactic approaches to public health problems, whether here or in developing countries.

Biotechnology offers new approaches to vaccine development and we would not like to see these approaches unduly hindered.

Small amounts of virulent toxins are routinely produced for research use by the scientific community. We would note that a variety of microbial and plant toxins have been used to elucidate fundamental cellular events. Much of this research has been used to develop therapeutic approaches to disease.

Research scientists have been looking at ways to take advantage of cytoxicity of these toxins. The entry of little as one molecule of a toxin into a living cell can result in cell death.

Thus, if the toxin could be targeted to a cancer cell or one infected with AIDS virus, then these specific cells could be destroyed while normal cells went on unaffected.

With the development of recombinant DNA and monoclonal antibody technology, this magic bullet approach to therapy is being realized. Monoclonal antibodies have been developed as specifically bind to the surfaces of cancer cells. A number of different types of toxins have been linked to these antibodies and they have shown to be able to selectively kill cancer cells in the laboratory.

Recent research has also shown that cells that are infected with AIDS virus express a particular determinant on their surface that can also be targeted.

A protein called CD4 binds to the surface of these cells that have this surface protein. Investigators at NIH have received a patent for a toxin linked CD4 protein that selectively kills this class of cells. This invention has been licensed to a pharmaceutical company for possible development as an AIDS therapeutic.

It must be noted that during the course of this type of research, the broad spectrum cell killing power of these toxins is markedly reduced so that they only target select cells. These resultant therapeutic compounds can in no way be used for biowarfare agents.

This type of research should not be stifled by any implementing legislation. The societal gains from the development of important new therapeutics must not be delayed.

Turning now, Mr. Chairman, to the specific language of S. 993, our concerns are not with the intent of you and your cosponsors, but rather with what the lawyers might do with your language.

The pertinent question from the point of view of the industry is whether or not it is possible that S. 993, designed as legislation to implement the Convention, might unintentionally interfere with quite legitimate, beneficial, peaceful purposes. Let us examine how this might come about.

We are pleased to note that S. 993 provides a defense to the seizure of any agent, toxin, or delivery system if it can be demonstrated that the agent or toxin is for prophylactic, protective, or other peaceful purposes and that it is of a type and quantity reasonable for those purposes.

However, we are concerned that in providing this defense the burden of proof might have been shifted. Indeed, the witness from the Justice Department testified that he is also uncertain as to where the burden of proof lies.

Essentially, that is the gravamen of our concern. We are in favor of the intention of the bill. We would like not to see perfectly legitimate research unnecessarily interfered with. We would like not to see perfectly legitimate scientists pursuing a lawful course of research suddenly placed in a position where it is they who must bear the burden of proving that what they are doing is lawful, not unlawful, and if they are unable to carry that burden, then they have to suffer the consequences. That is being proven guilty before you are proven innocent, and that is not the way the U.S. system works.

[The statement of Mr. Godown follows:]

Testimony of Richard D. Godown
President, Industrial Biotechnology Association
on S. 993, the Biological Weapons Anti-Terrorism Act of 1989
before the Senate Judiciary Committee
July 26, 1989

Mr. Chairman, it is a pleasure to appear before this committee and offer testimony on S. 993, the Biological Weapons Anti-Terrorism Act of 1989, on behalf of the members of the Industrial Biotechnology Association.

IBA is a trade association of 91 corporations engaged in the research, development and manufacture of biotechnology products used in health care, agriculture, and for environmental purposes. Our industry is growing rapidly and we anticipate that by the year 2000, U.S. sales of industrial biotechnology products will reach $15-40 billion dollars.

Our Board of Director's is firmly on record endorsing the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (biological) and Toxic Weapons and Their Destruction and is generally supportive of implementing legislation.

IBA's chief concern about any enabling legislation to implement the Biological Weapons Convention of 1972 is that peaceful research utilizing biological agents might be restricted in some manner. It is important not only to the biotechnology industry, but to the broader biomedical research community, that any legislation allow continued research towards developing prophylactic approaches to public health problems, whether here or in developing countries. Biotechnology offers new approaches to vaccine development and we would not like to see these approaches unduly impeded.

Small amounts of virulent toxins are routinely produced for research use by the scientific community. We would note that a variety of microbial and plant toxins have been used to elucidate fundamental cellular events. Much of this research has been used to develop therapeutic approaches to disease.

Research scientists have been looking at ways to take advantage of the cytotoxicity of these toxins. The entry of as little as one molecule of a toxin into a living cell can result in cell death. Thus, if the toxin could be targeted to a cancer cell or one infected with AIDS virus, these specific cells could be destroyed while normal cells are not affected. With the development of recombinant DNA and monoclonal antibody technology, this "magic bullet" approach to therapy is being realized. Monoclonal antibodies have been developed that specifically bind to the surfaces of cancer cells. A number of different types of toxins have been linked to these antibodies and they have been shown to selectively kill cancer cells in the laboratory.

Recent research has also shown that cells that are infected with AIDS virus express a particular determinant on their surface that can also be targeted. A protein called CD4 binds to the surface of those cells that have this surface protein. Investigators at NIH have received a patent for a toxin-linked CD4 protein that selectively kills this class of cells. This invention has been licensed to a pharmaceutical company for possible development as an AIDS therapeutic.

It must be noted that during the course of this type research the broad spectrum cell killing power of these toxins is markedly reduced so that they only target select cells. These resultant therapeutic compounds can in no way be used as biowarfare agents.

This type of research should not be stifled by any implementing legislation. The societal gains from the development of important, new therapeutics must not be delayed.

Turning now, Mr. Chairman, to the specific language of S. 993, our concerns are not with the intent of you and your cosponsors, but rather with what the lawyers might do with your language. The pertinent question from the point of view of industry is whether it is possible that S. 993, designed as legislation to implement the convention, might unintentionally interfere with quite legitimate, beneficial, peaceful purposes. Let us examine how that might come about.

We are pleased to note that S. 993 provides a defense to seizure of any agent, toxin or delivery system, if it can be demonstrated that the agent or toxin is for prophylactic, protective or other peaceful purposes and that it is of a type and quantity reasonable for those purposes. However, we are concerned that in providing this defense, the burden of proof has been shifted. For discussion purposes, let us assume a worst case, hypothetical example. Presume that an individual who is ill-disposed towards biotechnology in principle, arms himself with reputable scientific opinion concerning what lies within the realm of possibility (as opposed to the true intent of the research involved) and then for his own purposes proceeds to stir up public discomfort and concern by alleging that what is being undertaken for a peaceful purpose has a warlike goal. Under the circumstances, public pressure could be considerable for the Justice Department to act on that assertion. It seems a possible interpretation under S. 993 that an academic, or government or industrial scientist could find very much to his dismay that his research on a given toxin was under fire and the burden of proof had shifted. It had somehow become his responsibility to prove that the type of toxin he was working with was intended for use in connection with a peaceful purpose. In the meantime, the Attorney General could seize and destroy his research materials without payment or other compensation and possibly do so, even without a warrant.

Since it would be a fairly easy matter to prove that a given scientist had a toxin on hand, in a sufficient quantity (and we know that conventional toxins can be quite lethal in small amounts), to place him within the ambit of this law, we believe that the prosecutor should have the continual burden of proving that his purpose was in fact unlawful. At no time should the burden of proving innocence shift to the defendant.

We accept without question the intent of the cosponsors of the bill to produce legislation which guards against unlawful conduct while preserving the right to carry out beneficial research and development. We believe that it serves everyone's purpose to have strong provisions, reflecting the constitutional guarantee against unreasonable search and seizure, written into this bill.

Mr. Chairman, we would be glad to work with this committee in perfecting language appropriately implementing the 1972 Convention.

Senator KOHL. Thank you, Mr. Godown.

Dr. Rosenberg?

STATEMENT OF DR. BARBARA HATCH ROSENBERG

Dr. ROSENBERG. Thank you, Mr. Chairman and members of the committee.

I have spent most of my career studying the molecular genetics of microorganisms and viruses, and I have become increasingly aware of the possibilities for misuse of this knowledge. An effective Biological Weapons Convention is the only antidote.

Domestic implementation and enforcement by all parties are important elements and the example of the United States is particularly important.

I want to thank Senator Kohl and his colleagues for introducing this implementation bill and the Judiciary Committee for holding these hearings and inviting me to testify.

To let you know some of my background, I covered the Second Review Conference of the Biological Weapons Convention for the Bulletin of the Atomic Scientists, and among other articles, I have just completed a chapter on proposals for verifying the convention, soon to be published by the MIT Press.

The scientific community has a vital interest in the effectiveness of the Biological Weapons Convention as a means of ensuring the humanitarian application of biological research.

A great many of us follow the issues closely. I am certain that I speak for nearly all my colleagues when I say that we are disturbed that our country, 15 years after it ratified the Convention, still has not passed implementing legislation in accordance with article IV of the Convention.

The United States has acknowledged the need for such legislation on a number of occasions in the past, but has taken no action.

This negligence indicates to the international community that the United States does not take the Biological Weapons Convention seriously enough. Yet, the Convention is the best and perhaps the only real defense against biological weapons.

If confidence is lost in the Convention's effectiveness, many nations, particularly the weaker ones, may turn to the offense. However, the possession of biological weapons can provide security for no one.

As President Nixon stated when he renounced them in 1969, "Biological weapons have massive, unpredictable, and potentially uncontrollable consequences. Retaliation in kind would not be the best response to a biological attack."

Nothing has happened in the field of biology or biotechnology since then to change that assessment. The situation is different from that for chemical weapons which do not have such far reaching effects.

As for defense, the Stoessel Commission on Chemical Warfare reported in 1985 that, "For this country to put its faith in defense against chemical weapons would be a dangerous illusion." This is even truer for biological weapons, for their intrinsic properties of slow action and difficulty of targeting make civilians for whom protection is a technical and economic impossibility the most likely victims.

This vulnerability makes it extremely important to preserve confidence in the Convention so as to avoid any incentive for proliferation of these relatively cheap and technically accessible means of mass destruction.

Proliferation of biological weapons would pose a grave danger in itself even without their use in warfare. Unlike other weapons, biological weapons agents can replicate themselves and spread.

If these agents were being researched and developed at numerous locations throughout the world, here in inadequate facilities, there in incompetent or irresponsible hands, we know from experience that sooner or later some of the agents will escape. The result could be a global epidemic or the establishment of new diseases among the human population.

In the age of genetic engineering, this threat cannot be taken lightly. Research at creating novel biological warfare agents could produce along the way all sorts of laboratory curiosities capable of causing disease and of spreading in a variety of ways, while evading preventive measures and treatment. AIDS has given us a hint of what the escape of such an agent could mean.

Concern about the military attractions of biotechnology pervaded the Second Review Conference of the Biological Weapons Convention in 1986. Most delegations agreed that something had to be done about verification.

In the end, an unprecedented annual exchange of information was agreed upon, but the proposals for drawing up a verification protocol were postponed until the next review conference.

Postponement did not signify lack of resolution, however, on the part of either Eastern or Western nations, or the less developed ones, but rather the belief that the stringent verification provisions already under negotiation for chemical weapons would provide a precedent and model for biological weapons verification.

The next review will take place in 1991 and it is mandated that the conference must consider action on a new protocol.

U.S./Soviet agreement just last week on measures for surprise inspection gives hope that the chemical weapons convention will be largely completed by 1991.

If agreement can be reached on the extensive and highly intrusive verification measures being negotiated for chemical weapons, surely the much more modest requirements of biological verification can be met. I can say more about this later, if you are interested.

The United States has already expressed a desire for biological verification. There is a worldwide momentum in that direction and we can take the lead, but first we must ourselves be in full compliance with the convention.

Passage of this implementation bill will fulfill our obligation under the convention and demonstrate congressional recognition of the convention's importance.

I have tried to show that this bill has an important symbolic content signifying U.S. commitment to the Biological Weapons Convention.

There are a number of reasons why other nations may have some doubts about that commitment and I will be glad to mention them later, if you like.

But symbols aside, the bill is also concretely operational. There is now no law penalizing the private development of biological weapons agents. Beyond that, the recent involvement of U.S. companies in supplying poison gas precursors to the Middle East suggests that an explicit statement with respect to biological weapons is in order.

Similar to the Dole and Helms sanctions bills, S. 8 and S. 238, this bill would provide a significant penalty for such actions. The bill represents the first congressional effort in many years to ensure that the ban on biological weapons remains effective. It is important that it succeed.

Thank your for your support.

[The statement of Dr. Rosenberg follows:]

TESTIMONY ON S.993, IMPLEMENTING THE BIOLOGICAL WEAPONS CONVENTION BEFORE THE SENATE JUDICIARY COMMITTEE

by

BARBARA HATCH ROSENBERG, PH.D.

Memorial-Sloan Kettering Cancer Center

26 July 1989

Mr. Chairman and Members of the Judiciary Committee:

I am Barbara Hatch Rosenberg, a molecular biologist at Memorial-Sloan Kettering Cancer Center in New York and Professor of Environmental Science at the State University of New York in Purchase. I have spent most of my career studying the molecular genetics of microorganisms and viruses, and I have in the process become increasingly aware of the possibilities for misuse of this knowledge. The Biological Weapons Convention has been set up as an international safeguard against such misuse, but it requires constant maintenance to ensure its enduring success. Domestic implementation and enforcement by all parties are important elements in the success of a treaty, and the example of the United States is particularly important. I want to thank Senator Kohl and his colleagues for introducing implementing legislation, and the Judiciary Committee for holding these hearings and inviting me to testify.

Some years ago my concern about the implications of the current explosion in biological knowledge led me to investigate its military relevance. Since then I have written on Biological Weapons for the Encyclopedia of the Twentieth Century; I covered the second review conference of the Biological Weapons Convention in 1986 for the Bulletin of the Atomic Scientists; I have written articles on matters related to the Convention and to biotechnology in a number of scientific publications and have spoken at numerous symposia and conferences on biological weapons issues. I have just completed a chapter on proposals for verifying the Biological Weapons Convention, to appear in a book soon to be published by the MIT Press.

As a scientist I am not alone in my concern. The scientific community has a vital interest in the effectiveness of the Biological Weapons Convention as a means of ensuring the humanitarian application of biological research. Scientists have shown their concern in resolutions passed by scientific societies, in programs held at national meetings and in the extensive coverage of biological weapons issues found in scientific news journals, frequently with quotations from prominent scientists . As Senator Hatch can testify, it was the biological and medical scientists at the University of Utah, virtually every one of them acting together, who brought to public attention the health hazards of a biological aerosol testing plan for the Dugway Proving Grounds in Utah and the possibility that the plan would undermine the Biological Weapons Convention. The plan was modified after Senator Hatch characterized it as "reckless endangerment".

I am certain that I speak for nearly all my scientific colleagues when I say that we are disturbed that our country, fifteen years after it ratified the Biological Weapons Convention, still has not passed implementing legislation in accordance with Article IV of the Convention. The United States has acknowledged the need for such legislation on a number of occasions in the past, in letters and in two previous bills, introduced (in 1975 and 1980) at the request of the State Department, on which no action was taken. This negligence indicates to the international community that the United States does not take the Biological Weapons Convention seriously enough. Yet the Convention is the best and perhaps the only real defense against biological weapons. If confidence is lost in its effectiveness, many nations, particularly the weaker ones, may turn to the offense, and the acquisition of biological weapons will proliferate.

However, the possession of biological weapons can provide security for no one. As President Richard Nixon stated when he renounced them in 1969, "Biological weapons have massive, unpredictable and potentially uncontrollable consequences. They may produce global epidemics and impair the health of future generations," but they "could not destroy the military arsenal of an enemy". Thus, "retaliation in kind would not be the best response to a biological attack". Nothing has happened in the fields of biology or biotechnology since then to change that assessment. The situation is different from that for chemical weapons, which do not have such far-reaching effects. Whereas chemical weapons are considered important for deterrence, this is not true for biological weapons and it has not been US policy for at least 20 years.

As for defense, The Stoessel Commission on Chemical Warfare reported in 1985 that "for this country to put its faith in defense against chemical weapons...would be a dangerous illusion". This is even truer for biological weapons, for their intrinsic properties of slow action and difficulty of targetting make civilians, for whom protection is a technical and economic impossibility, the most likely victims. This vulnerability makes it extremely important to preserve confidence in the Convention, so as to avoid any incentive for proliferation of these relatively cheap and technically accessible means of mass destruction.

Proliferation of biological weapons would pose a grave danger in itself, even without biological warfare. Unlike other weapons, biological weapons agents can replicate themselves and spread. If these agents were being researched and developed at numerous locations throughout the world, here in inadequate facilities, there in incompetent or irresponsible hands, we know from experience that sooner or later some of the agents will escape - whether through accident, intention, error, negligence, theft, sabotage or whatever. The result could be a global epidemic or the establishment of new diseases among the human population. In the age of genetic engineering, this threat cannot be taken lightly. Research aimed at creating novel biological warfare agents could produce along the way all sorts of laboratory curiosities capable of causing disease and of spreading in any of a variety of ways while evading preventive measures and treatment. AIDS has given us a hint of what the escape of such an agent could mean.

Military interest in biological weapons has obviously been fanned by the new biotechnologies, with their potential for greatly facilitating production and for engineering novel agents. The resulting suspicions undermine the Biological Weapons Convention's ban on the development and possession of biological weapons and highlight the Convention's lack of provisions for verification.

Concern about the effects of biotechnology pervaded the second review conference of the Biological Weapons Convention in 1986. The President of the conference, Austrian Ambassador Winfried Lang, wrote afterward that "in light of repeated statements to the effect that the treaty regime was in trouble and that its vulnerability could not be overlooked any longer, the Conference was challenged to strengthen the the treaty". Most delegations agreed that something had to be done about verification. The less developed states parties were eager for measures that would enable them to document their peaceful intent so that transfer of biotechnology would not be inhibited. In the end, an unprecedented annual exchange of information and other cooperative, confidence-building measures were agreed upon, and the proposals for drawing up a verification protocol were postponed until the next review conference. The postponement did not signify lack of resolution on the part of either Eastern or Western nations, but rather the belief that the stringent verification provisions already under negotiation for chemical weapons would provide a precedent and model for biological weapons verification. The next review will take place in 1991, and it is mandated that the conference must consider action on a new protocol.

US/Soviet agreement last week on key chemical arms issues, including surprise inspection, gives hope that the chemical weapons convention will be largely completed, if not signed, by 1991. If agreement can be reached on highly intrusive verification measures involving the gigantic global chemical industry and large existing stockpiles of chemical weapons, surely the much more modest requirements of biological verification can be met.

Last December President Reagan issued a report that stated, with respect to biological weapons, "The United States believes that verification measures are of unprecedented importance in US efforts to rid the world of these weapons of mass destruction". President Bush has frequently expressed the desire to eliminate both biological and chemical weapons. At hearings last May on Biological Weapons Proliferation, members of the Senate Governmental Affairs Committee repeatedly called for verification. There is a worldwide momentum in that direction, and the United States could take the lead.

But first, we must ourselves be in full compliance with the Biological Weapons Convention. Passage of this implementation bill will fulfill our obligation under the Convention; it will put us in a moral position to expect full compliance by other parties; it will demonstrate Congressional recognition of the importance of this treaty; and it will contribute to the success of the next review conference.

Already a motion has been made to compile a special report of domestic implementation of the Biological Weapons Convention by all states parties, to be distributed at the 1991 review conference. It is likely that this plan will be implemented by the Preparatory Committee next year. Instead of having to fall back on the weak and inadequate statements offered by the United States at previous review conferences, this time we can be prepared with an implementing law on the books.

I have tried to show that this bill has an important symbolic content, signifying US commitment to the Biological Weapons Convention. But it is also concretely operational. Currently there is no law penalizing the private development of biological weapons agents. There is no clear legal prohibition on all forms of assistance to foreign states, international organizations or terrorists in the acquisition of biological weapons. The recent involvement of US companies in supplying poison gas precursors to the Middle East suggests that an explicit statement with respect to biological weapons is in order. Similar to the Dole and Helms sanctions bills, S.8 and S.238, this bill would provide a significant penalty for such actions.

The preamble to the Biological Weapons Convention says that the states parties are determined, for the sake of all mankind, to exclude completely the possibility of biological agents being used as weapons, and that no effort should be spared to minimize that risk. This bill represents the first effort in that direction that Congress has made in many years. It is important that it succeed. Thank you for your past and future efforts.

Senator **Kohl**. Thank you, Dr. Rosenberg.

Ambassador Leonard, from what you have said today it sounds like we are talking about the kind of legislation that was always contemplated by our negotiators in Geneva. Do you think that is a fair statement?

Ambassador **Leonard**. I think it is, Senator, although we did not at that time make any attempt ourselves to imagine what the draft precisely would contain or anything because that varies so much from one country to another.

Senator **Kohl**. Mr. Ambassador, why do you think it has taken so long for this law to come down the pike?

Ambassador **Leonard**. Well, I think, Senator, that there was a period in the late 1970's and early 1980's when the whole question of arms control was under—was very much in question in the public mind and in the minds of the executive branch and the Congress. And there is a long history there, which there is no need to review, but I think that when various members of one or the other body, such as Congressman Rodino, made efforts to bring forward legislation, it never gained very wide support either within the Congress or from the executive branch, and without that support, simply legislation does not go forward.

That has changed and the circumstances—the attitudes of people toward arms control today are very different after the negotiation by President Reagan of the INF Treaty and the very significant achievements that are being seen as complementing our military strength as a way of enhancing our national security.

I think it is very timely now to go forward with this.

Senator **Kohl**. Do you have any comments or suggestions on the wording in our bill?

Ambassador **Leonard**. I have one and a half, Senator, if I might. The first one is that the phrase used in the legislation says that it prohibits developing, possessing and so on for use as a weapon of mass destruction. So far as I know, there is not a precedent in domestic legislation for the use of that language. That is language which occurs over and over again in U.N. resolutions in the General Assembly, but even there it is subject to a considerable, very long and intricate and I think unnecessary controversy over what just what are weapons of mass destruction.

And I notice that in your definition section you do not include any definition, what is a weapon of mass destruction, and it seems to me that perhaps that is opening up an unnecessary legal problem which could be complex in the actual case if one ever actually had to be prosecuted regarding this. But also, it opens up a political loophole or what might be construed as a political loophole that the U.S. is reserving the right for its citizens to engage in the development of biological weapons as long as they are not for mass destruction. And I think you have no such intention, but it seems to me that better language might be available.

I noticed, thanks to Dr. Rosenberg whose tireless efforts on this whole matter certainly deserve commendation, that the British law which corresponds to the law which you are now sponsoring here, uses the language, "for use for hostile purposes or in armed conflict," and that seems to me broader and yet not too broad. It seems to me that it does embrace the problem of terrorism, which I know is very much on your mind. I just have a question as to whether terrorist groups are necessarily engaged in developing weapons of mass destruction. They may target their hostility much more narrowly.

It seems to me that phrase deserves some reconsideration in working with the executive branch in perfecting the bill.

Senator **KOHL**. I think that is a good suggestion.

Ambassador **LEONARD**. The other problem I had not thought of as a problem until the comment which was made here a bit ago by Mr. Noble of the Justice Department. It relates to section 178, paragraph 6, which I guess he correctly said it should be (a)(6), with regard to whether Government entities or Government officials are covered by this action and he suggested for what may be valid reasons that that should be reconsidered.

But I would like to recall an incident that occurred in the early 1970's, which may be forgotten by now, but which attracted quite a bit of attention at the time. It was, as you know, in 1969, President Nixon unilaterally renounced the possession of biological weapons and instructed that all of our weapons be destroyed. And in 1971, we negotiated and brought back a treaty that committed us to that. This all got a great deal of publicity, and if I recall right, an additional Executive Order was issued to reaffirm the destruction of all of our weapons.

But an official in the Central Intelligence Agency happened to have a little bit of biological agent in his office and he thought this was a very bad thing for us to destroy all of this stuff, and he kept it. He kept it for quite a while and it only later became public that he had done so. He was reprimanded and he was disciplined. The stuff was destroyed, but this illustrates how it is possible for people to be misguided, to put it mildly, and to think that their instructions or their duties require them to do things which in fact they should not be doing.

And it seems to me that the criminal proceedings here should be available for possible use against a Government official who wrongly and illegally does something which is in violation of the law which you are putting forward.

Senator **KOHL**. Thank you, Mr. Leonard.

Mr. Godown, I understand your concern that legislation should not chill legitimate research and development and I share your concern and I do not want to undermine in any way peaceful endeavors.

My question is, would industry feel more secure if we made clear in the legislative history that the bill is not in any way intended to prohibit the kind of research that you have described?

Mr. **GODOWN**. Senator, I think so definitely. Anything that can add to the record that is being made concerning the intent of what it is that this committee and the Senate in enacting this legislation intends to bring into the law will be helpful.

The fact is that in working with biological toxins a number of key events in cellular metabolism have been uncovered and these have led to some very interesting and promising new therapeutic approaches, and we feel that this is the kind of research which should be allowed to go forward with minimum Federal oversight and interference, if you will, and that is the bottom of our concern.

But, yes, whatever language you could add to the record would be very, very useful.

Senator KOHL. Mr. Godown, the main difference between our bill and H.R. 237, the House equivalent, concerns the burden of proof. H.R. 237 says that in an injunction proceeding the defendant has the burden of proving that conduct is for a peaceful purpose.

Our bill, as you know, does not contain this language. Does IBA have any thoughts on this matter?

Mr. GODOWN. Yes, sir, and I think that S. 993 is superior in that respect, but for the fact that I sat in the hearing room here today and heard the Justice Department witness say that he would like to have a few days to think over your question concerning where the burden lies. I would take even more support or feel even more strongly about the matter.

The problem that we envision possibly coming about is one that you do not intend and we would not intend, but it would be the private investigator—scientific investigator working away and someone mean-spirited and perhaps for his own purposes points a finger and says, "Say that fellow in there with the white coat on has got some toxins in there and he is working on them." Well, those things would be true, but the question is, what is he doing with them? The Justice Department's response to our questions about a possible shifting of the burden and placing the scientist in an untenable position is, given a broad interpretation if you will, trust us. It is our job to enforce the criminal law and we will do a good job. We will not bring a case unless we have substantial evidence and we feel that we can win it. Well, I would like a little bit more than trust on the record and in the legislation.

Senator KOHL. Mr. Godown, from what I understand, it would be difficult for terrorists to genetically engineer a biological weapon. They are more likely to steal a deadly culture from someone who has already got it.

Are the IBA's member companies aware of the need to safeguard dangerous substances? And in general terms, what kinds of security measures do your companies have in place to prevent unauthorized acquisition of toxins?

Mr. GODOWN. Senator, the answer is, yes, they are aware of the need to supply security, and both for public safety reasons and for protecting their commercial property for proprietary reasons. There is security in place at biological—at biotechnology companies and laboratories. I think it would be quite, quite difficult to get into a laboratory and steal a strain of dangerous material.

Senator KOHL. Thank you, Mr. Godown.

Mr. GODOWN. Thank you, Senator.

Senator KOHL. Dr. Rosenberg, in your written testimony you refer to "the age of genetic engineering." Have the new genetic techniques made it more important to have a law like S. 993, and if you believe that is true, why?

Dr. ROSENBERG. They certainly have. At the time that the treaty was signed in 1972, I think biological weapons were generally considered to have little or no military interests. And so, the treaty was signed without verification measures for that reason. Subsequent—in fact, it is interesting that in that very year, 1972, the paper that forms the basis for genetic engineering was published and the new biotechnology developed after that, and as it developed, its military implications became obvious and military interest grew. And now you hear talk about designer weapons and that sort of thing, which has given rise to international suspicions that not knowing what other parties to the treaty may be doing along these lines, raising the need for verification and the need for all types of reassurance of full compliance with the treaty.

And so I think whereas at the time—in 1975, perhaps it was thought that an implementation bill was not really important, I think now the situation has changed dramatically.

Senator KOHL. Dr. Rosenberg, you have spent a good deal of time working with viruses. It is not terribly hard to spread a dangerous substance or to infect someone. Have we just been lucky that no one has attacked our citizens with a deadly germ?

Dr. ROSENBERG. No, I do not think it has been luck. I think we have a good health system in this country and I think any contact with a conventional agent, those that are most easily accessible, would not go very far. I mean you could do some damage, but it would be very limited.

I think the problem with biological weapons is largely in the third world, in the less developed world and in the possibility of an accident involving a novel agent. And the means for creating novel agents have just come about. We have not been living with them for very long. A problem could arise, especially if there were proliferation of these efforts.

Senator KOHL. Dr. Rosenberg, Mr. Godown explained industry's concern about our bill. What about academia? For example, would this bill inhibit a university's search for a cancer cure?

Dr. ROSENBERG. I think any health research, any legitimate health research will clearly fall under the prophylactic protective or other peaceful purposes clause and will easily be seen not to be a knowing development of a means of mass destruction. But aside from that, I have never met a scientist who had any problem with an implementation bill. Most of them applaud it highly, except for one aspect, and that is the burden of proof question.

For example, the American Society for Microbiology, which includes most of the scientists who are doing the type of work that might conceivably be inhibited, was seriously considering endorsement of the bill a couple of years ago when it was introduced in the House, but they were hung up on this burden of proof clause and decided to hold off in the hope that perhaps the Senate would introduce a bill that changed that.

So now I think there is a good chance that they will, but it is a slow process. However, the president of the society is a strong supporter of the bill, as are other officers, and I do not see any problem either among that group or any other.

Senator KOHL. Doctor, is there a consensus within the scientific community about the strength of the BWC? Do scientists think it is still effective?

Dr. ROSENBERG. Well, there is certainly a consensus about its importance and I think that most people think it has been remarkably effective, but certainly the need for strengthening the treaty regime is recognized. I think this bill will help in this country, but

I think that this country also has to push for stronger international measures.

Senator KOHL. Thank you, Dr. Rosenberg.

Senator Thurmond?

Senator THURMOND. Thank you very much, Mr. Chairman.

I ask unanimous consent that the statement by Senator Grassley be placed in the record.

Senator KOHL. Without objection.

[The statement of Senator Grassley follows:]

STATEMENT OF
SENATOR CHARLES E. GRASSLEY
ON THE BIOLOGICIAL WEAPONS ANTI-TERRORISM ACT OF 1989
SENATE JUDICIARY COMMITTEE
JULY 26, 1989

FIRST OF ALL, MR. CHAIRMAN-SEN. KOHL, CONGRATULATIONS ON YOUR FIRST OPPORTUNITY TO CHAIR ONE OF THE OLDEST COMMITTEES OF THE UNITED STATES SENATE. HAVING BEEN THERE MYSELF, IT IS A GREAT HONOR AND A GREATER RESPONSIBILITY. I KNOW YOU TAKE THIS RESPONSIBILITY SERIOUSLY AND I KNOW YOU WILL DO WELL.

AGAIN, CONGRATULATIONS.

MR. CHAIRMAN, THANK YOU FOR ALLOWING THE COMMITTEE THE OPPORTUNITY TO CONSIDER THE BILL BEFORE US. THE ISSUE IS COMPLEX BUT VERY IMPORTANT, SO I INTEND TO LISTEN INTENTLY AND STUDY THE ANSWERS OF OUR WITNESSES.

AS WE REVIEW THIS ISSUE, OUR GOAL SHOULD BE TO HELP ENSURE THAT BIOLOGICAL WEAPONS WILL NOT BE USED AGAINST ANYONE. THAT WAS AND IS THE WORTHY PURPOSE OF THE TREATY WHICH THE U.S. SIGNED IN 1972, AND WHICH THE SENATE RATIFIED IN 1974.

AS WE ARE ALL AWARE, THE 1972 TREATY PROHIBITS THE COUNTRIES THAT SIGNED IT FROM DEVELOPING BIOLOGICAL WEAPONS "IN ANY CIRCUMSTANCES". THE SIGNATORY COUNTRIES AGREED THAT NOT TO MAINTAIN BIOLOGICAL AGENTS OR TOXINS "THAT HAVE NO JUSTIFICATION FOR ... PROTECTIVE OR OTHER PEACEFUL PURPOSES".

ARTICLE IV OF THE TREATY STATES THAT SIGNATORY COUNTRIES "TAKE ANY NECESSARY MEASURES TO PROHIBIT AND PREVENT THE DEVELOPMENT, PRODUCTION, STOCKPILING, ACQUISITION, OR RETENTION" OF BIOLOGICAL WEAPONS "WITHIN THE TERRITORY OF EACH [SIGNATORY NATION], UNDER ITS JURISDICTION OR UNDER ITS CONTROL ANTWHERE."

SEVERAL OF THE COUNTRIES THAT SIGNED THIS TREATY HAVE INTERPRETED THIS PROVISION TO REQUIRE ENACTMENT OF PROHIBITIONS AGAINST BIOLOGICAL WEAPONS IN THEIR DOMESTIC CRIMINAL LAW.

THE UNITED STATES HAS NOT ENACTED SUCH A STATUTE.

THE SUPPORTERS OF S. 993 MAINTAIN THAT BY -- MAKING IT A CRIMINAL OFFENSE FOR PRIVATE PARTIES TO KNOWINGLY DEVELOP BIOLOGICAL WEAPONS -- THE BILL WILL ASSIST IN THE PREVENTION OF TERRORISM BECAUSE IT WILL HELP PREVENT THE POSSIBILITY THAT PRIVATE PARTIES WILL USE BIOLOGICAL AND TOXIC AGENTS.

IF LEGISLATION CAN ACHIEVE THE PURPOSE OF PREVENTING TERRORISTS FROM USING BIOLOGICAL WEAPONS, THEN PASSAGE OF SUCH A MEASURE WOULD BE ADVISABLE.

BUT AT THE SAME TIME, WE MUST BE MINDFUL OF THE BILL'S POTENTIAL IMPACT ON THE PRIVATE SECTOR'S BIOTECHNOLOGY INDUSTRY AND POSSIBLY, THE DEFENSE DEPARTMENT'S EXISTING BIOLOGICAL DEFENSE RESEARCH PROGRAM.

IN A SYSTEM SUCH AS OURS, PRIVATE COMPANIES MAKE CONTRACTS WITH THE GOVERNMENT TO ACHIEVE PUBLIC GOALS. IF THIS BILL -- BASED ON A PROVISION IN A TREATY WE HAVED SIGNED -- WERE TO INTERFERE WITH A PRIVATE ENTERPRISE'S EFFORTS TO FULFILL ITS CONTRACT WITH THE U.S. GOVERNMENT, THEN IT IS A BAD IDEA.

A RESPONSIBILITY OF THE SENATE IS TO CONSIDER LEGISLATION SUCH AS S. 993 IN LIGHT OF THE DEFENSE NEEDS OF THE UNITED STATES.

WHEN CONSIDERING ISSUES OF NATIONAL DEFENSE, WE MUST BE WARY OF ANY CONGRESSIONAL ACTION THAT WOULD **UNILATERALLY** HAMPER OUR DEFENSIVE EFFORT. TO TAKE SUCH ACTION WOULD BE SHEER FOLLY.

IF THE EVIDENCE SUGGESTS THAT -- UNDER THE INTERPRETATION OF ARTICLE 4 OF THE TREATY, WHICH SAYS THAT SIGNATORY NATIONS MUST "TAKE ANY NECESSARY MEASURES TO PROHIBIT AND PREVENT THE DEVELOPMENT, PRODUCTION, STOCKPILING, ACQUISITION, OR RETENTION" OF BIOLOGICAL WEAPONS "UNDER ITS CONTROL ANYWHERE," -- A PRIVATE CONTRACTOR MAY STILL FULFILL ITS OBLIGATIONS TO THE UNITED STATES' GOVERNMENT, THEN THERE SHOULD BE NO IMPACT ON OUR NATIONAL SECURITY.

I AM IN NO WAY SUGGESTING THAT THE BIOTECHNOLOGY INDUSRTY NOR THE DEFENSE DEPARTMENT BE GIVEN A BLANK CHECK. I ABHOR THE VERY EXISTENCE OF BIOLOGICAL WEAPONS AS MUCH AS ANYONE AND HOPE TO SEE PRESIDENT BUSH ACHIEVE HIS GOAL OF ELIMINATING THESE WEAPONS.

HOWEVER, AS UGLY AS THESE WEAPONS ARE AND DESPITE THE EXISTENCE OF THE 1972 TREATY, THEIR USE IS NOT INCOMPREHENSIBLE. THESE FACTS HAVE BEEN DEMONSTRATED BY RECENT INCIDENTS AROUND THE WORLD INVOLVING WEAPONS WITH SUSPICIOUS SIDE EFFECTS.

WE MUST INSURE THAT THE UNITED STATES HAVE THE CAPABILITY TO DEFEND ITSELF AGAINST THESE WEAPONS BY THOSE WHO WISH US ILL -- INCLUDING TERRORISTS -- AND WHO MAY NOT "PLAY" BY THE RULE OF INTERNATIONAL LAW.

I LOOK FORWARD TO THE TESTIMONY OF OUR PANEL MEMBERS HERE TODAY.

Senator **Thurmond**. Mr. Chairman, I want to congratulate you on the splendid manner in which you have presided over this meeting. I believe this is the first time you have presided over the committee, is it not? Well, you did it like a veteran.

Senator **Kohl**. Thank you.

Senator **Thurmond**. I commend you.

Now, I just have very few questions. Ambassador Leonard, as head of the U.S. delegation during the negotiations of the Biological Warfare Convention, you had the opportunity to learn the extent to which other countries have developed biological weapons. From your experience, what is the current situation worldwide regarding the development and production of biological weapons?

Ambassador **Leonard**. Senator, I am not the best person to answer that. I think Ambassador Holmes gave you the best answer to that question when he testified earlier. But 20 years ago, it was thought that only a very few countries were interested in this and that the best possible way of discouraging them was to negotiate a treaty which would prohibit it. And I think the fact that it has not—the number of countries that are interested in it is perhaps as low as 10, which was Ambassador Holmes' testimony just a bit ago, is in a way the kind of testimony to the effectiveness of the measures we took at that time.

Senator **Thurmond**. Thank you.

Mr. Godown, in your prepared statement, you discuss the legitimate research involving biological agents which might be restricted as a result of this legislation.

Will you discuss what, if any, difference there is between the research toxins and agents involved in legitimate biomedical research and biological warfare research.

Mr. **Godown**. It would mainly be—it might be both substance and purpose. Certainly, as I discussed in the testimony, there is work going on with a number of toxins. I discussed the fact that we are making some progress in coming to grips with AIDS through the use of recombinant ONA technology as it applies.

If someone were bent on producing toxins for general warfare purposes, I expect the difference—you probably would not be able to tell outwardly. You would have to have a fairly good investigation that went on and some severe questioning to find out what the intent of the scientist was. The toxin themselves I think would not reveal the intent.

Senator **Thurmond**. Mr. Godown, you do not disagree with the intent of this legislation's sponsors, as I understand, to limit the threat of biological weapons. Yet, you are concerned that legitimate research may be chilled. Would you discuss what specific changes you would make in this legislation in order to address this concern?

Mr. **Godown**. I think it has to do mainly with the shifting of the burden of proof, or the possible shifting of the burden of proof. In the case where a seizure takes place, if you postulate a scientist has spent a fair amount of time in getting to a given point in his or her scientific research, and for whatever reason this is the time that the Department of Justice decides to, so to speak, spring a trap that they feel that they have enough information to cause them to act. And so with or without a warrant, and that is it seems to me at issue in this legislation, with or without a warrant they may feel called upon to act precipitously to use the power under section 179, I think it is, to seize and destroy the research materials. Now if they did that and they did so improperly, the fact that the scientist has an affirmative defense that he can make a defense that he was in fact working for a peaceful purpose is not going to do him much good.

So it is terribly important that should this bill become legislation and should the Justice Department act thereunder, it is terribly important that, if I may speak in the vernacular, that they have their act together, that they have their facts straight before they decide to act because the powers that they are given are so pervasive that they literally could destroy a lifetime of research in a very swift period of time and then offer apologies, which would not do much good.

Senator THURMOND. If you have any other suggestions, would you pass them on to the staff?

Mr. GODOWN. Yes, sir, I would, Senator.

Senator THURMOND. Dr. Rosenberg, you have stated that the scientific community has a vital interest in the effectiveness of the Biological Weapons Convention.

In your opinion, does the scientific community support this legislation and do they believe it will have any sort of chilling affect upon legitimate biological research?

Dr. ROSENBERG. Yes, I think there is widespread support in the scientific community. I have not run into any opposition at all, nor any worries about a chilling affect on research.

But just to amplify what Mr. Godown was saying about the difference between legitimate and illegitimate, he mentioned only toxins. In terms of microbiological agents, say bacteria or viruses, I think it might be easier to make a distinction there because there are certain properties that one would look for in a viable weapons agent and it would be quite unlikely that more than one of those properties would be found in something for peaceful purposes.

So if you found the conjunction of several of those properties being engineered into an agent, that might raise suspicions. I think that there would be grounds for doubt and that we could easily tell by looking at the agent being created.

Senator THURMOND. Dr. Rosenberg, in your prepared statement, you stress the fact that the Convention lacks adequate provisions for verification.

Would you discuss what steps can be taken to improve verification so that the United States, by criminalizing production of such weapons, will not be putting the safety of its citizens at risk of foreign attack?

Dr. ROSENBERG. The negotiations currently under way for chemical weapons negotiation I think offer a number of suggestions that would also be applicable to biological verification, and in a sense easier, because biological agents have much less commercial importance than chemical agents in their precursors and there is no need to verify the destruction of stockpiles or production facilities, as there is for chemical agents. The chemical treaty will provide an organization structure which could probably be used or copied.

But in terms of biological agent development or verification to prevent it, openness, I think everyone agrees, is the key and most biological research is already open and published in the open literature.

I think that measure could be—we could require very extensive annual reportage on types of facilities and types of agents handled and that a check could be carried out on the reporting by providing the possibility of inspection, at least occasional and random surprise inspection that would not have to be quite as systematic as the chemical treaty is providing. But that, together with a means of settling disputes such as either challenge inspection or calling upon the Secretary General to investigate, I think would solve most of the problems that are foreseen for biological weapon verification.

Senator THURMOND. I want to express my appreciation to all of you witnesses for coming today and you have added greatly to this hearing.

Thank you, Mr. Chairman.

Senator KOHL. Thank you, Senator Thurmond. And Senator, I want to express my appreciation to you for coming here and staying with us throughout this entire hearing. In addition to adding as much as you obviously did to the hearing in terms of content, it was a special treat for me. I have watched, heard and listened to Senator Thurmond for many, many years as a citizen and I never dreamt that I would be holding a hearing here today and be honored by his presence. So I do appreciate it very much, Senator Thurmond.

Senator THURMOND. Glad to be with you.

Senator KOHL. And I would like to thank you, Ambassador Leonard, and Mr. Godown, and Dr. Rosenberg for being here today.

I understand that Senator Leahy and other senators may have questions that they would like to give you in writing. So I will hold the record open for 5 days for any questions that may be submitted to you and hopefully for your answers.

Ambassador Leonard, did you want to say something?

Ambassador LEONARD. Could I just make a comment on the issue which has received quite a bit of discussion, this burden of proof issue? I am not a lawyer, so I will not get into complexities here.

But it seems to me the relevance—there is a relationship between that and the openness, which Dr. Rosenberg and other witnesses, Ambassador Holmes, underlined the utility of glasnost, as Ambassador Holmes called it.

And it is clear that any group or individual who wanted to proceed in a hostile manner toward—for terrorism purposes or whatever would proceed clandestinely. He would not make his activities open or public. And that when a scientist or a company proceeds in an open way, then they are in a way declaring that their activity is something which is legitimate. It seems to me that in that way there could be found a means of reconciling the need for dealing with the terrorist problem with the problem, which Mr. Godown properly draws our attention to, of not placing undue burdens on the researcher of the industrial firm.

Senator KOHL. Thank you, Mr. Ambassador.

Mr. Godown, would you like to make a comment?

Mr. GODOWN. Might I conceivably just add a sentence to what the Ambassador has just said. Obviously, there are many legitimate reasons within the industrial community to proceed, not clandestinely, but to proceed with some secrecy in order to protect your proprietary information on your discoveries until you have time to file your patents and to establish your rights.

And so I am not quite sure how the suggestion that if the work is done openly and freely shared proves that it is for a lawful purpose and if it is otherwise we perhaps have some suspicions. I would not necessarily share those suspicions. There may be good legitimate commercial reasons for the secrecy.

Senator KOHL. OK. Well, thank you very much for your comments. I do appreciate it very much.

Before I close the hearing, I would like to express my personal appreciation to the people in my office who have worked very hard and successfully on this hearing today, that is Jon Leibowitz, Keenen Peck, Tracy Hahn, and Mary Kerr. They have done a great job and I personally do appreciate it.

Our hearing stands adjourned.

[Whereupon, at 4:35 p.m., the committee adjourned.]

APPENDIX

University of Illinois
at Urbana-Champaign

College of Law
209 Law Building
504 East Pennsylvania Avenue
Champaign, IL 61820

217 333-0931
FAX 217 244-1478

89 JUL -6 AM 11:21

July 5, 1989

Express Mail

The Honorable Herb Kohl
United States Senate
Committee on the Judiciary
Washington, D.C. 20510-6275

Dear Senator Kohl:

Thank you very much for your kind letter of June 30 inviting me to testify before the Senate Judiciary Committee on S. 993, the Biological Weapons Anti-Terrorism Act of 1989. It was most appreciated. I regret to report that I will be unable to appear on that day because of a prior commitment. However, pursuant to your request, enclosed you will find written testimony I have prepared in support of S. 993. In particular, a Supplement to that Testimony contains a detailed analysis of why existing statutes do not provide enough protection against the development of biological weapons. I would greatly appreciate your kind offer to enter my Testimony and Supplement into the record.

Once again I am very sorry I will be unable to testify on July 26. But if there is any way I can be of assistance to you and your staff during the passage of this highly commendable legislation, please feel free to let me know.

Yours very truly,

Francis A. Boyle
Professor of Law

FAB/ba
encl's.

University of Illinois
at Urbana-Champaign

College of Law
209 Law Building
504 East Pennsylvania Avenue
Champaign, IL 61820

217 333-0931
FAX 217 244-1478

TESTIMONY
IN SUPPORT OF
S. 993, 101st. CONG., 1st SESS.
The Biological Weapons Anti-Terrorism Act of 1989

Before

The United States Senate Committee on the Judiciary

July 26, 1989

by

Francis A. Boyle

Professor of International Law and

Program in Arms Control, Disarmament and International Security

The University of Illinois at Urbana-Champaign

Counsel, The Committee for Responsible Genetics

A.B. (Chicago: 1971), J.D. Magna Cum Laude (Harvard: 1976),

A.M. and Ph.D. in Political Science (Harvard: 1978 and 1983)

Good Day. My name is Francis A. Boyle, Professor of International Law and Member of the Program in Arms Control, Disarmament, and International Security at the University of Illinois at Urbana-Champaign. I am also Counsel to the Committee for Responsible Genetics (CRG) and in that capacity I have directly supervised CRG's project to sponsor the passage of implementing legislation for the Biological Weapons Convention of 1972. I should point out that I have not been paid any fee by any individual, group, corporation, or organization -- including the Committee for Responsible Genetics -- for the testimony I am giving here today.

It is generally agreed that the Biological Weapons Convention of 1972 applies to recombinant DNA experiments and other techniques of genetic engineering. One of the great loopholes and severe deficiencies of the Convention, however, is the exception article I thereof has created for biological agents or toxins that are retained "for prophylactic, protective, or other peaceful purposes." Indeed, article X of the Convention makes it clear that parties to the Convention have the right to participate in the fullest possible exchange of equipment, materials, and scientific and technological information for the use of bacteriological agents and toxins for "peaceful" purposes. Hence, one of the major problems with the Convention today is the undeniable fact that it becomes almost impossible to conduct genuinely "peaceful" research into genetic engineering applications of a "defensive" nature (e.g., developing a vaccine) without obtaining results that could readily be put to use for the production of proscribed offensive biological weapons.

The best way to deal with the serious compliance problems created by such intrinsically dual-use genetic engineering research is for the United States Congress to adopt tough implementing legislation designed to guarantee that all such projects conducted in U.S. territory be undertaken in strict accordance with the terms of the Biological Weapons Convention. In this regard, article IV of the Convention requires each state party to adopt such implementing legislation. Hence the United States government is under an obligation to adopt implementing legislation in order to carry out the terms of the Convention within its domestic legal order to make sure that all U.S. citizens adhere to its terms -- whether persons in the government, government contractors, and especially individuals in the private sector.

The enactment of such implementing legislation would also constitute one of the primary mechanisms for preventing "terrorist" states, groups, or individuals from contracting with U.S. genetic engineering firms for the production of biological weapons that could serve as a relatively inexpensive alternative to the development of nuclear weapons for the threat or use of mass extermination in order to accomplish their terroristic objectives. At this point in time private American DNA genetic engineering firms are perfectly free to ignore the terms of the Convention. So far the Convention can only bind the United States government as a matter of international law in its relations with other state parties to the Convention. The prohibitions of the Convention do not yet bind any private citizen or corporation within the United States of America of their own accord.

Indeed, it would be unconstitutional as a violation of due process of law to prosecute or punish any individual pursuant to the terms of the Convention because it has not yet been implemented by a specific congressional statute that precisely defines the nature of the offense, fixes the penalty, establishes proper venue for the prosecution, etc. See, e.g., The Over the Top Case, 5 F.2d 838, 845 (D. Conn. 1925). Hence, today it would not be criminal for a private DNA genetic engineering firm to contract with a terrorist state or group or even a private individual to manufacture biological weapons. The only way to stop such a tragic disaster from happening is for Congress to adopt tough implementing legislation now that would make such activity a crime whether committed by a government contractor or someone in the private sector. Although not absolutely foolproof, the imposition of severe criminal penalties would serve as an effective deterrent upon governmental contractors and private sector individuals who are currently conducting genetic engineering research that could be put to such prohibited uses.

In response to these compelling arguments the previous Reagan administration had adopted the somewhat debatable position that various statutes already on the books could, when considered together, serve the purpose of "implementing" the Biological Weapons Convention: viz, the Arms Export Control Act; Export Administration Act; Hazardous Material Transportation Act; Toxic Substances Control Act; Public Health Service Act; Federal Insecticide, Fungicide and Rodenticide Act; and the National Institutes of Health Guidelines for Research Involving Recombinant DNA Molecules. In the brief time allotted to me here today, I will not have the opportunity to analyze in great detail why this is not so. But in this regard, at the request of the Committee for Responsible Genetics I had drafted a Memorandum at Law entitled The Need for United States Implementing Legislation for the Biological Weapons Convention of 1972, that was dated April 1, 1987. Attached you will find a Supplement to my Testimony that contains the relevant portions of that Memorandum. As you can see, this 1987 Memorandum contains an extensive analysis of these various statutes then cited by the Reagan administration, together with a detailed explanation on a point-by-point basis of exactly why these statutes, whether considered individually or collectively, would be completely inadequate to serve for the purpose of implementing the Biological Weapons Convention.

Technically, therefore, the United States government still stands in breach of its solemn international legal obligation under Convention article IV to enact such domestic implementing legislation. By contrast, for example, the British government adopted strict implementing legislation for the Biological Weapons Convention as long ago as 1974. Similarly, France had enacted legislation which it considered far more protective than the Convention in 1972. Belgium adopted legislation to implement the Convention in 1978, and Australia adopted the Crimes (Biological Weapons) Act of 1976. Japan, Nigeria, the Netherlands and Sweden, inter alia, also have domestic legislation dealing with such matters. In Communist states such as the Soviet Union and China where there is no private sector as a matter of law, the terms of the Biological Weapons Convention would apply directly to all agencies and instrumentalities of the government as well as to all government employees, which would presumably include anyone who might conceivably be engaged in such genetic engineering research. Also, other states in the world community do not specifically require domestic implementing legislation in order for treaty obligations to be directly binding upon their private citizens.

The proposed implementing legislation would place the U.S. government on the same legal footing as many of our friends and allies and thus strengthen the Convention's strict regime. In addition, such implementing legislation would drastically curtail the ability of terrorist states, groups or individuals to contract with American DNA genetic engineering firms for the production of biological weapons for their own nefarious purposes. Such implementing legislation would also serve notice to government contractors and private sector individuals that there exists a bright red line demarcating felonious behavior that they had better not cross or even nibble around the edges of when it comes to self-styled "peaceful" or "defensive" research into biological weapons and biological warfare capabilities. Finally, such implementing legislation would certainly help assuage some of the serious concerns held by other state parties to the Convention about the purpose of the proposed aerosol test facility at the Dugway Proving Grounds and thus prevent the development of a de facto biological weapons race under the guise of "defensive" research.

For all of these reasons then, I believe it would be extremely important for the United States Congress to adopt such strict implementing legislation immediately. Thank you very much for your kind consideration. It has been most appreciated.

Yours very truly,

Fran A. Boyle

Francis A. Boyle
Professor of Law
and Program in Arms Control,
Disarmament and International Security
Counsel, Committee for Responsible Genetics

FAB/ba

FILE:ANTI-TER

University of Illinois
at Urbana-Champaign

College of Law

209 Law Building
504 East Pennsylvania Avenue
Champaign, IL 61820

217 333-0931
FAX 217 244-1478

SUPPLEMENT TO THE TESTIMONY OF FRANCIS A. BOYLE
In Support of S. 993, 101st CONG., 1st SESS.
The Biological Weapons Anti-Terrorism Act of 1989

July 26, 1989

EXCERPTED FROM

THE NEED FOR UNITED STATES IMPLEMENTING LEGISLATION FOR THE BIOLOGICAL WEAPONS CONVENTION OF 1972

April 1, 1987

by

Francis A. Boyle
Professor of International Law and
Program in Arms Control, Disarmament and International Security
The University of Illinois at Urbana-Champaign

Counsel, The Committee for Responsible Genetics

A.B. (Chicago: 1971), J.D. Magna Cum Laude (Harvard: 1976),
A.M. and Ph.D. in Political Science (Harvard: 1978 and 1983)

1. Introduction [deleted]

2. The Arms Export Control Act

The Arms Export Control Act, 22 U.S.C.A. §§2751-2794, authorizes the President to control the export and import of "defense articles" and "defense services." 22 U.S.C.A. §2778. The designation of the various "defense articles" is provided in the United States Munitions List. 22 C.F.R. §121.1. "Biological agents" are designated on that List, along with "chemical agents." 22 C.F.R. §121.1 (category XIV).

The term "defense articles" includes "models, mockups, and other such items which reveal technical data directly relating to the items designated." 22 C.F.R. §120.7. The term "defense service" incorporates the "furnishing of assistance, including training, to foreign persons in the design, engineering, development, production, processing, manufacture, use, [and] . . . operation . . . of defense articles, whether in the U.S. or abroad." 22 C.F.R. §120.8. These two terms are thus appropriately broad in coverage. In addition, the List encompasses equipment "for dissemination, detection, and identification of and defense against" biological agents, as well as "components, parts, accessories, attachments, and associated equipment specifically designed or modified" for such equipment.

Unfortunately, the term "biological agent" is itself left completely unclarified. It is of little assistance to know that the restrictions of the Act govern the "furnishing of assistance" to "foreign persons" in the "design" of a biological agent, when the Act provides no clarification whatsoever as to what is meant by a "biological agent."

The Munition List's lack of clarity as to "biological agents" is to be contrasted with the Munition List's relatively greater clarity regarding "chemical agents." The Munitions List does define a chemical agent as "a substance having military application which by its ordinary and direct chemical action produces a powerful physiological effect." 22 C.F.R. 121.7. In addition, numerous "chemical agents" are then specifically listed, according to their types of physiological effects and their chemical composition, although the listing is not exclusive. In contrast, "biological agents" are not defined, and examples are not specified, so that the scope of the Act's coverage is quite unknown.

Even where particular items are deemed to be "biological agents," the Act often does not provide for governmental scrutiny and regulation of the research and/or manufacture of such agents. The regulations require registration with the Office of Munitions Control by all persons in the United States who export or manufacture defense articles and services. 22 C.F.R. §122.1. However, this registration requirement is riddled with exceptions. First, registration is not required for officers and employees of the United States government. Second, registration is not required for persons "whose activity is confined to the production of unclassified data only." Third, registration is not required for persons "who engage only in the fabrication of articles for experimental or scientific purposes, including research and development." 22 C.F.R. §122.1.

In summary, the Arms Export Control Act does not satisfy the requirement in article IV of the Biological Weapons Convention that each state take the necessary measures to prohibit and prevent the development, production, and stockpiling of biological weapons and equipment. The United States Munitions List does refer to "biological agents," but that term is not clarified in any manner whatsoever. In addition, the registration requirement is so riddled with exceptions that all government officers and employees, as well as many private "research" firms, are exempt from even registering with the Office of Munitions Control under this Act.

3. The Export Administration Act of 1979

While the Arms Export Control Act governs the export of items designated on the United States Munitions List, the export of other items may be restricted under the Export Administration Act of 1979, 50 App. U.S.C.A. §§2401-2420. Pursuant to the latter authority, the Office of Export Administration (O.E.A.) maintains its own Commodity Control List. Exports may be prohibited or controlled for national security reasons, 50 App. U.S.C.A. §2404, or for foreign policy reasons, 50 App. U.S.C.A. §2405. The Commodity Control List includes those commodities subject to Department of Commerce export controls. 15 C.F.R. §399.1. Exports of commodities on that list may require "validated licenses" issued upon individual application to the O.E.A., 15 C.F.R. §372, if those commodities are being exported to specified countries. Unfortunately, the O.E.A.'s restrictions are also insufficient for the purpose of satisfying the United States' obligation under article IV of the Biological Weapons Convention, both because the Commodity Control List does not adequately describe those biological toxins, agents, equipment, etc. which are addressed by the Biological Weapons Convention, and because the restrictions generally apply only to exports to some countries.

The Commodity Control List includes restrictions for exports of "viruses or viroids for human, veterinary, plant, or laboratory use, except hog cholera and attenuated or inactivated systems." 15 C.F.R. §399.1, Supp. 1, Group 9. In addition, the List includes "bacteria, fungi, and protozoa," as subject to specified exceptions in the List. Id. Apparently any other items addressed by the Biological Weapons Convention would not be subject to even the limited O.E.A. restrictions on exports of such Commodity Control List items.

4. Hazardous Material Transportation Act

The Hazardous Material Transportation Act, 49 U.S.C.A. §§1800 et. seq., was enacted to "improve the regulatory and enforcement authority of the Secretary of Transportation to protect the nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials in commerce." 49 U.S.C.A. §1801.

This legislation will not "prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention" as required by article IV. While the Act does regulate transportation of "hazardous materials," the designation of a "hazardous material" is completely within the discretion of the Secretary of Transportation. 49 U.S.C.A. §1803. The materials so designated "may include .

. . etiologic agents" which, under 49 C.F.R. §173.386 (1986), means "viable microorganisms, or their toxins, which may cause human disease," and is limited to the agents listed in 42 C.F.R. 72.3.

Again, the Act prescribes a discretionary designation of hazardous materials by the Secretary of Transportation, while the Convention covers all biological agents that have no justification for prophylactic, protective, or other peaceful purposes. The Act does not therefore properly implement the Convention's definition of a prohibited biological agent.

But more importantly, the Act merely regulates the transportation of hazardous materials. *See* 49 U.S.C.A. §1804 (authority for promulgation of regulations relating to transportation). *See also* 49 U.S.C.A. §1805 (criteria for registration and handling of hazardous materials). *See, e.g.,* 49 C.F.R. Part 174 (carriage by rail); 49 C.F.R. Part 175 (carriage by aircraft); 49 C.F.R. Part 176 (carriage by vessel); 49 C.F.R. Part 177 (carriage by public highway). The Act does not *prohibit* the "development, production, stockpiling, acquisition or retention" of the agents it regulates.

Thus, the Hazardous Material Transportation Act does not implement the Biological Weapons Convention for two reasons. First, the Act's definition of a "hazardous material" is materially different from the definitions of prohibited substances in articles I(1) and I(2) of the Convention. Second, the Act only authorizes regulations for the safe transportation of substances designated by the Secretary; it does not prohibit and prevent "their development, production and stockpiling" as required by the Convention. The inconsistency between the Act and Convention is highlighted by the Convention's articles II and III. Article II mandates the destruction of all material within the Convention's scope and article III prohibits "any transfer" of such materials. The Act, on the other hand, regulates the *lawful transfer* of all materials within its scope.

In summary, the intent of the Hazardous Materials Transportation Act is to regulate the transportation of hazardous materials and the Act therefore does not implement the Biological Weapons Convention goal of eradicating all agents or toxins that have no peaceful purpose.

5. Toxic Substances Control Act

The Toxic Substances Control Act's purpose is also unrelated to the Convention's goals. The Act, codified at 15 U.S.C.A. §2601 et. seq., implements three policies: (1) the collection of data with respect to the effect of chemical substances on health and the environment; (2) the regulation of chemical substances which present an "unreasonable risk of injury" to health or environment; and (3) the control of regulations on chemical substances so that economic and technological development is not impeded. 15 U.S.C.A. §2601.

Under the Act, if the Administrator of the E.P.A. finds that the manufacture, distribution, processing, use, or disposal of a chemical substance (defined in §2602) may present an unreasonable risk of injury to the health or environment (or is entering the environment in significant quantities) and if insufficient data exist upon which the effect to health and environment may be predicted, then the Administrator will require that testing be conducted on that substance. See 15 U.S.C.A. §2603.

Upon receipt of any data which indicate to the Administrator that there may be a reasonable basis to conclude that a chemical substance will present an unreasonable risk of environmental harm, the Administrator will take steps to reduce that risk. However, these steps may be as minimal as labeling notice requirements or limitations on the use of the substance. See 15 U.S.C.A. §2605(a). Clearly this falls short of the Biological Weapons Convention prohibition on the possession of certain substances.

While the Act requires regulation of chemical substances which will present an "unreasonable risk" of injury to health or the environment, that regulation must be "the least burdensome" means for preventing any such risk. (15 U.S.C.A. §2605.) Clearly, the least burdensome "protect[ions]" against the risk posed by biological weapons would not be blanket prohibitions -- as are required by the Convention -- but rather regulations controlling the use, distribution, documentation and disposal of those biological weapons. The Act would therefore require less stringent regulation of biological weapons than the Biological Weapons Convention requires.

There are further inadequacies. First, the Act applies only to the "manufacture" and "processing" of substances for "commercial purposes," 15 U.S.C.A. §2604(i); and "manufacture for commercial purpose" is defined as "manufacturing with the purpose of obtaining an immediate or eventual commercial advantage for the manufacturer." 40 C.F.R. §704.3. Thus, a governmental unit manufacturing biological weapons would be outside the scope of the Act since its purpose would not be to gain a "commercial advantage."

Additionally, the Act specifically exempts from its reporting requirements any person manufacturing or processing substances in small quantities for "scientific experimentation or analysis," or "chemical research on, or analysis . . . including research and analysis for the development of a product."

Finally, the Act apparently does not create a civil action under which damages can be recovered. See Johnsen v. Koppers Co., 524 F.Supp. 1182 (N.D. Oh. 1981).

6. Public Health Service Act

The Public Health Service Act is codified at 42 U.S.C.A. 201 to 300. Sections 262 and 263a of the Act relate to licensing of biological products and clinical laboratories. Another potentially applicable section was related to genetic disease, but it has been repealed. The two arguably applicable sections of the Act are therefore sections 262 (licensing of biological products) and section 263a (licensing of laboratories). Both sections fail to implement the Biological Weapons Convention. While article IV of the Convention requires measures which will "prohibit and prevent" the development of any agents or toxins that lack any peaceful purpose, the Act merely prohibits interstate traffic of unlicensed toxins.

First, with regard to section 262, the Act covers a much more limited range of "biological products" than does the Convention. While the Convention covers agents or toxins which lack a peaceful purpose, the Act covers only agents or toxins "applicable to the prevention, treatment, or cure of diseases or infirmities of man." Since many of the agents with no peaceful purpose will be non-curative in nature, the Act will inadequately implement the Convention with respect to a broad class of biological weapons. The Act also requires that the agents it covers be licensed; it does not, however, ban them as the Convention mandates. Such licenses under §262(d) may be issued upon a showing that agents meet standards of continued safety, purity and potency prescribed in regulations.

Second, section 263a merely imposes various reporting requirements for regulation of clinical laboratories. It does not ban laboratories which produce biological weapons as required by the Convention.

7. Federal Insecticide, Fungicide and Rodenticide Act

With certain exceptions, this Act, codified at 7 U.S.C.A. 136 et. seq., requires that persons register with the EPA any "pesticides" which are distributed, offered or sold. The term "pesticide" is defined as (1) any substance intended for preventing, repelling, or mitigating any "pest," and (2) any substance intended for use as a plant regulator, defoliant, or desiccant.

Biological toxins and agents covered by the Convention seem quite unlike the pesticides described in this Act. Indeed, pesticides are defined as substances intended to repel or mitigate the growth of bacterial organisms. This is evidenced by the fact that a pesticide is defined as a repeller of any "pest," and pest is defined in 40 C.F.R. 162.3 as "(1) any insect, rodent, nematode, fungus, weed, or (2) any other form of terrestrial or aquatic plant or animal life or virus, bacterial organism or other microorganism (except viruses, bacteria, or other microorganisms on or in living man or other living animals) which the Administrator declares to be a pest under section 25(c)(i) of the Act and 40 C.F.R. §162.14 as being injurious to health or environment." Furthermore, biological toxins do not appear in the illustrative list of pesticides at 40 C.F.R. 102.3(ff). The closest categories of "pesticides" listed in the regulations are "biological weed-control agents" (under the term "herbicides") (40 C.F.R. 162.3(ff)(9)(viii)) and "biological insect control agents" (under the term "insecticides") (40 C.F.R. 162.3(ff)(10)(iv)). Clearly, most of the biological toxins and agents covered by the Convention are not "pesticides" since they are neither labelled as such (see 40 C.F.R. 162.3(ff)(12)) nor intended to repel "pests." See 40 C.F.R. §162.4 (status of products or pesticides).

Even if some "pesticides" did fall under the Convention's rubric of biological agents, the Act would still fail to properly implement the Convention with respect to those substances. 7 U.S.C.A. §136a merely requires that "pesticides" be registered; it does not prohibit the possession or manufacture of pesticides which have no peaceful purpose.

It is significant to note that a court has held the Act not to create a private right of action. See Fiedler v. Clark, 714 F.2d 77 (9th Cir. 1983). Cf. Oregon Environmental Council v. Kanzman, 714 F.2d 901 (9th Cir. 1983) (state residents can sue under Administrative Procedure Act for alleged violations of Federal Insecticide, Fungicide and Rodenticide Act). It is also important to point out that under 7 U.S.C.A. §136p the Administrator may, at his discretion, exempt any Federal or State agency from any provision of the Act if he determines that emergency conditions exist which require such exemption. Furthermore, 7 U.S.C.A. §136o declares that pesticides and devices intended solely for import will not violate the Act so long as they are prepared in compliance with the foreign purchaser's directions. All of these exceptions display the further inadequacy of this Act as a means for implementing the Convention.

In summary, the Federal Insecticide, Fungicide and Rodenticide Act does not implement any portion of the Biological Weapons Convention as required under article IV. Like the other statutes reviewed, this Act is deficient for this purpose in three main respects: (1) it does not cover the biological agents and toxins described by the Convention in article I; (2) it only regulates and does not prohibit the development, production, stockpiling, acquisition and retention of the substances it covers; and (3) it contains numerous exceptions including an exemption for Federal and State agencies.

8. The NIH Guidelines

Finally, the Reagan administration has argued that the National Institutes of Health Guidelines for Research Involving Recombinant DNA Molecules can somehow be said to "implement" the Biological Weapons Convention. However it is quite clear from the "legislative history" of these Guidelines that they were never intended to and do not now address these issues. Indeed, in June of 1982, the Recombinant DNA Advisory Committee (RAC) specifically considered amending the NIH Guidelines so as to address the use of recombinant DNA technology in biological warfare. 47 Fed. Reg. 23,110 (1982). But RAC never adopted that amendment.

In fact, the proceedings of RAC's June, 1982 meeting demonstrate that some members of RAC considered an amendment of the Guidelines to be unnecessary and superfluous, because they erroneously believed that the Convention was already effective as U.S. domestic law. *See* Minutes of the Meeting, June 28, 1982, Recombinant DNA Advisory Committee, Department of Health and Human Services, Public Health Services, National Institutes of Health, at 60. Furthermore, the view was expressed that an amendment might dangerously imply that RAC considered the Convention itself inapplicable to the use of recombinant DNA technology in biological warfare. *Id.* at 75. Therefore RAC never adopted the amendment, but simply advised the Director of NIH of its position that such uses of recombinant DNA techniques were prohibited under the Convention.

Subsequently, in May of 1985, RAC also declined to establish a working group to examine potential military uses of recombinant DNA technology. The RAC members agreed that RAC had neither the mandate nor the resources to investigate such issues. *See* Discussion on a Proposal to Form a RAC Working Group on Biological Weapons, 8 Recombinant DNA Technical Bulletin 174 (Dec. 1985). Thus RAC never acted so as to implement the Biological Weapons Convention to any extent, but on the contrary specifically refused to undertake any such measures.

9. Conclusion [deleted]

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AMERICAN PUBLIC HEALTH ASSOCIATION
1015 Fifteenth Street, N.W., Washington, D.C. 20005 • (202) 789-5600
IRIS R. SHANNON, RN, PhD, *President*

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July 12, 1989

The Honorable Herbert H. Kohl
United States Senate
702 SHOB
Washington, DC 20510-4903

Dear Senator Kohl:

The American Public Health Association (APHA), representing a combined national and affiliate membership of over 55,000 public health professionals and community health leaders, supports S. 993, the Biological Weapons Anti-Terrorism Act of 1989.

APHA has long recognized that there are serious dangers associated with the research, manufacture, storage, and transport of chemical and biological weapons. The Association expressed these concerns in a 1974 policy statement entitled "Chemical and Biological Methods of Warfare," a copy of which is enclosed for your information. As a result of this policy statement, we have consistently supported moratoria on research, development, and use of of all forms of biological and chemical weapons.

Despite the support of APHA and several other organizations for a total ban, and despite the fact that the United States signed the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, our nation is still lacking in its domestic policies regarding biological weapons. More specifically, Article IV of the 1972 convention required each party to take measures to prevent production, stockpiling, acquisition, and retention of biological weapons within its borders. While several nations have enacted legislation to meet this requirement, the United States has not. Consequently, individuals within U.S. borders are not prohibited from developing their own biological weapons, potentially for terrorist means, and there exists the additional potential risk of disastrous accidental releases. It appears that these risks are very real. Several experts have explained that it would be very easy for an individual to develop his or her own biological weapons and that many new organisms could simply be built in a kitchen and produced in great quantities in a brewery.

Given the tremendous potential of biological weapons to cause death and injury through warfare, terrorism, and accidental release, APHA firmly supports any and all efforts to ban these weapons. We applaud you for introducing S. 993, and we strongly urge the Senate Judiciary Committee to consider this important piece of legislation. Thank you.

Very truly yours,

Iris R. Shannon

Iris R. Shannon, RN, PhD
President

cc: Senator Joseph R. Biden

enclosure

7412: Chemical and Biological Methods of Warfare

With respect to biological and chemical methods of warfare, a number of concerns are widely held.

There exists the theoretical possibility of long-term residual effects on populations surviving such warfare and of uncontrollable ecological side effects.

As has been demonstrated recently, there are many serious dangers incidental to research, manufacture, storage, and transport of such agents.

Stockpiling large supplies of materials in strategic locations in different parts of the world gives the ominous implication that military planning might consider the preemptive offensive use of biological or chemical methods.

These are issues which can be appreciated without entering into polemic on comparative degrees of immorality of one or another method of incapacitation and killing or of more or less polite types of warfare. Because war in any form is uncivilized and unconscionable, the American Public Health Association believes that the United States should join other nations in efforts to avoid war and its consequences.

Policy decisions relevant to biological and chemical methods of warfare are too serious to be left quietly and secretly in the hands of a few individuals. There must be effective democratic mechanisms for determination of policies and there must be public accountability concerning the implementation of such policies.

APHA believes that the following steps are strongly indicated and urges that they be taken to intensify international efforts for general disarmament and the furthering of peace.

The United States government should ratify the 1925 Geneva Protocol banning the use in war of poison gas and biological weapons (which the United States and Japan, alone among the major powers, have never ratified) and should support extension of such a ban to all chemical and biological weapons, including herbicides and riot gases.

The United States should institute a moratorium on all forms of research on and development of chemical and biological weapons of warfare.

The President of the United States should appoint a committee of citizens, from neither the Congress nor the military, of sufficient stature and composition to be the nation's monitor on activities related to biological and chemical warfare methods, and no doors should be closed to it concerning any secret data or information.

The United States Congress should obtain all necessary information, should maintain meaningful and appropriate surveillance, and should take a stronger role in determining national policy on the subject of biological and chemical warfare.

NEW ENGLAND
Biolabs
32 Tozer Road Beverly, MA, U.S.A. 01915-5510
(508) 927-5054
TELEX 6817316
FAX (508) 921-1350

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July 27, 1989

Senator Herbert Kohl
Senate Judiciary Committee
224 Dirksen Senate Office Bldg.
Washington, DC 20510

Dear Senator Kohl:

I have examined Senate Bill S993, and I find it appropriate and timely, and urge its passage.

Genetic engineering is a powerful tool that can be used by experienced molecular biologists to produce, with a minimum of funds and equipment, biologicals that may be used to cure major world health problems or create world health problems. The choice for most of us is very clear. But, times and circumstances change - think of the choice that might have been made had Iran or Iraq in its present conflict had access to an established biotechnology center. Therefore, legislative restraints on the use of recombinant organisms or any biological system for weapons is absolutely essential, and this bill will certainly strengthen this effort.

We grow a wide variety of microorganisms to produce restriction endonucleases (the tools of genetic engineering) and sell many different vectors for recombinant DNA research. This bill would not restrict any of these activities, and I can't imagine any way in which it would inhibit the growth of any of the different disciplines of biotechnology.

Best regards.

Sincerely,

Donald G. Comb

Donald G. Comb, Ph.D.
President

DGC/caz

PUBLIC AND SCIENTIFIC AFFAIRS BOARD
AMERICAN SOCIETY FOR MICROBIOLOGY

1325 Massachusetts Avenue, N.W.
Washington, D.C. 20005
Telephone: (202) 737-3600

July 27, 1989

The Honorable Herb Kohl
Senate Judiciary Committee
702 Hart Building
Washington, D.C. 20510

Dear Senator Kohl:

In view of your recent hearing on legislation to implement the Biological Weapons Convention of 1972, we would like to submit for the legislative record the written comments which the American Society for Microbiology (ASM) submitted on July 10 to Representative Kastenmeier on the House bill, HR 237.

We believe the intent of the proposed bills is in accord with the ASM's position on biological warfare as quoted in the attached letter to Representative Kastenmeier. Our primary concern, however, is that any enabling legislation should not include language which could be used to restrict peaceful, humane research. The attached July 10 letter outlines our concerns in more detail.

We appreciate your efforts to prohibit biological weapons and would be pleased to work with you and your staff on language which would appropriately implement the 1972 Convention.

Sincerely,

Kenneth I. Berns, M.D., Ph.D.
Chairman, Public and Scientific
Affairs Board (PSAB), American
Society for Microbiology (ASM)

enclosure

cc: The Honorable Robert W. Kastenmeier

PUBLIC AND SCIENTIFIC AFFAIRS BOARD
AMERICAN SOCIETY FOR MICROBIOLOGY

1325 MASSACHUSETTS AVENUE, N.W.
WASHINGTON, D.C. 20005
TELEPHONE: (202) 737-3600

July 10, 1989

The Honorable Robert W. Kastenmeier
Chairman, Subcommittee on Courts, Intellectual
Property and the Administration of Justice
Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

Dear Representative Kastenmeier:

We are responding to your request for comments from the American Society for Microbiology (ASM) on HR 237, the Biological Weapons Act of 1989.

The intent of HR 237 is in accord with the ASM's position on biological warfare. In 1970, after considerable discussion concerning biological warfare, the Council of the ASM approved the following resolution: "The Council of the Society affirms that the health of science is enhanced by non-secret research and free movement of scientists. Furthermore, the Council affirms support of President Nixon's action on November 25, 1969, and February 14, 1970, to end our involvement in production and use of biological weapons. Because of our concern for humanitarian application of microbiological science, we urge that all nations convert existing offensive biological warfare facilities to peaceful uses." The ASM's Public and Scientific Affairs Board recently reviewed the 1970 Council resolution and is of the opinion that it still reflects the views of the membership.

However, we do have concerns about the specific language in the proposed implementation legislation that prevent us from endorsing the bill in its present form. We believe the bill may place certain restrictions on the freedom of inquiry of scientific investigators that extend beyond those intended. In particular, section 177 (page 4 lines 16 & 17) of the bill states "The defendant has the burden of proving this defense by a preponderance of the evidence." This provision appears to place scientists in the position of being guilty until they can prove themselves innocent and appears to be contrary to the American tradition of being innocent until proven guilty.

We are apprehensive that this provision could be and would be misused by individuals to harass the scientific community, not with the intention of prohibiting biological warfare but to prevent research with which they do not agree. In the past few years, there have been a number of lawsuits to prevent the release of genetically engineered microorganisms. The courts have ruled most of these as frivolous, but the same charges could be made under the proposed bill. Similarly, we are concerned that animal rights' extremists could use the provisions of HR 237 to harass scientists using animals in research. We believe this legislation could be used as the basis for lawsuits that would impede advances in science. To prove themselves innocent, especially with the potential penalties of imprisonment for life or term, individual scientists could be faced with a tremendous burden, both economic and in terms of defending their reputations against attacks on personal integrity.

We also note that in Section 178, the definition of agent as "Any microorganism, virus or infectious substance, capable of causing death, disease or other biological malfunction in human, in animal, plant, or another living organism"....."deleterious alteration of the environment" is so broad that charges could be brought to disrupt almost any type of biomedical or agricultural research. For example, if a scientist were developing a biologically produced pesticide or herbicide, how does the scientist defend against the charge that it will be used for biological warfare? Although the bill specifies intent, it is difficult to both prove and disprove intent. Again, one can envision many scenarios that could be used to harass scientists.

Scientists often use mutant microorganisms in their research. Some of these mutant organisms might be subsumed under the above-quoted definition of 'agent' in Section 178, thereby creating restraints on normal research practices. For instance, a mutant with a single gene deletion might cause a biological malfunction to an infected organism, but that result may not be undesirable in terms of research goals.

On page 5 line 18, the definition of vector is so broad that it could include vaccines that are used for animals. Also, since a vector that has been derived from a plant pest (for example, Crown gall) is used in a large number of plant recombinant DNA experiments, one could conceivably question the intent of all of these experiments.

We are very concerned that HR 237 will provide anyone who wishes to obstruct biological research with a tool to accomplish their ends. We well understand the difficulty that is encountered in attempting to write a bill that covers all aspects of biological warfare (weapons against humans, plants, animals and all living things) and yet does not infringe on the right to conduct research in a meaningful, constructive manner for the benefit of mankind.

We note that Senator Kohl recently introduced a companion bill in the Senate, S.993. A significant difference between this bill and the House bill is that it omits the provision, "The defendant has the burden of proving this defense by a preponderance of the evidence."

In summary, we support the intent of HR 237, but cannot support the bill in its present form because of the language contained therein. We hope that you appreciate our real concerns and that you and your staff are able to achieve your goals in prohibiting biological weaponry research in a meaningful manner.

Sincerely,
Walter Dowdle
Walter R. Dowdle, Ph.D.
President, American Society
for Microbiology (ASM)
Kenneth Berns
Kenneth I. Berns, M.D., Ph.D.
Chairman, Public and Scientific
Affairs Board (PSAB) ASM

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

Signed at Washington, London, and Moscow April 10, 1972
Ratification advised by U.S. Senate December 16, 1974
Ratified by U.S. President January 22, 1975
U.S. ratification deposited at Washington, London, and Moscow March 26, 1975
Proclaimed by U.S. President March 26, 1975
Entered into force March 26, 1975

The States Parties to this Convention,

Determined to act with a view to achieving effective progress towards general and complete disarmament, including the prohibition and elimination of all types of weapons of mass destruction, and convinced that the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and their elimination, through effective measures, will facilitate the achievement of general and complete disarmament under strict and effective international control,

Recognizing the important significance of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on June 17, 1925, and conscious also of the contribution which the said Protocol has already made, and continues to make, to mitigating the horrors of war,

Reaffirming their adherence to the principles and objectives of that Protocol and calling upon all States to comply strictly with them,

Recalling that the General Assembly of the United Nations has repeatedly condemned all actions contrary to the principles and objectives of the Geneva Protocol of June 17, 1925,

Desiring to contribute to the strengthening of confidence between peoples and the general improvement of the international atmosphere,

Desiring also to contribute to the realization of the purposes and principles of the Charter of the United Nations,

Convinced of the importance and urgency of eliminating from the arsenals of States, through effective measures, such dangerous weapons of mass destruction as those using chemical or bacteriological (biological) agents,

Recognizing that an agreement on the prohibition of bacteriological (biological) and toxin weapons represents a first possible step towards the achievement of agreement on effective measures also for the prohibition of the development, production and stockpiling of chemical weapons, and determined to continue negotiations to that end,

Determined, for the sake of all mankind, to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons,

Convinced that such use would be repugnant to the conscience of mankind and that no effort should be spared to minimize this risk,

Have agreed as follows:

Article I

Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

(1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;
(2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

Article II

Each State Party to this Convention undertakes to destroy, or to divert to peaceful purposes, as soon as possible but not later than nine months after the entry into force of the Convention, all agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention, which are in its possession or under its jurisdiction or control. In implementing the provisions of this article all necessary safety precautions shall be observed to protect populations and the environment.

Article III

Each State Party to this Convention undertakes not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage, or induce any State, group of States or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in article I of the Convention.

Article IV

Each State Party to this Convention shall, in accordance with its constitutional processes, take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition, or retention of the agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention, within the territory of such State, under its jurisdiction or under its control anywhere.

Article V

The States Parties to this Convention undertake to consult one another and to cooperate in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention. Consultation and cooperation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter.

Article VI

(1) Any State Party to this Convention which finds that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all possible evidence confirming its validity, as well as a request for its consideration by the Security Council.
(2) Each State Party to this Convention undertakes to cooperate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received

by the Council. The Security Council shall inform the States Parties to the Convention of the results of the investigation.

Article VII

Each State Party to this Convention undertakes to provide or support assistance, in accordance with the United Nations Charter, to any Party to the Convention which so requests, if the Security Council decides that such Party has been exposed to danger as a result of violation of the Convention.

Article VIII

Nothing in this Convention shall be interpreted as in any way limiting or detracting from the obligations assumed by any State under the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on June 17, 1925.

Article IX

Each State Party to this Convention affirms the recognized objective of effective prohibition of chemical weapons and, to this end, undertakes to continue negotiations in good faith with a view to reaching early agreement on effective measures for the prohibition of their development, production and stockpiling and for their destruction, and on appropriate measures concerning equipment and means of delivery specifically designed for the production or use of chemical agents for weapons purposes.

Article X

(1) The States Parties to this Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes. Parties to the Convention in a position to do so shall also cooperate in contributing individually or together with other States or international organizations to the further development and application of scientific discoveries in the field of bacteriology (biology) for prevention of disease, or for other peaceful purposes.

(2) This Convention shall be implemented in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful bacteriological (biological) activities, including the international exchange of bacteriological (biological) agents and toxins and equipment for the processing, use or production of bacteriological (biological) agents and toxins for peaceful purposes in accordance with the provisions of the Convention.

Article XI

Any State Party may propose amendments to this Convention. Amendments shall enter into force for each State Party accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party on the date of acceptance by it.

Article XII

Five years after the entry into force of this Convention, or earlier if it is requested by a majority of Parties to the Convention by submitting a proposal to this effect to the

Depositary Governments, a conference of States Parties to the Convention shall be held at Geneva, Switzerland, to review the operation of the Convention, with a view to assuring that the purposes of the preamble and the provisions of the Convention, including the provisions concerning negotiations on chemical weapons, are being realized. Such review shall take into account any new scientific and technological developments relevant to the Convention.

Article XIII

(1) This Convention shall be of unlimited duration.

(2) Each State Party to this Convention shall in exercising its national sovereignty have the right to withdraw from the Convention if it decides that extraordinary events, related to the subject matter of the Convention, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other States Parties to the Convention and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

Article XIV

(1) This Convention shall be open to all States for signature. Any State which does not sign the Convention before its entry into force in accordance with paragraph (3) of this Article may accede to it at any time.

(2) This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics, which are hereby designated the Depositary Governments.

(3) This Convention shall enter into force after the deposit of instruments of ratification by twenty-two Governments, including the Governments designated as Depositaries of the Convention.

(4) For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

(5) The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession and the date of the entry into force of this Convention, and of the receipt of other notices.

(6) This Convention shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XV

This Convention, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of the Convention shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding states.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Convention.

DONE in triplicate, at the cities of Washington, London and Moscow, this tenth day of April, one thousand nine hundred and seventy-two.

August 1, 1989

The Honorable Herbert Kohl
Committee on the Judiciary
U.S. Senate
Washington, D.C. 20510

Dear Senator Kohl:

We are writing to endorse enthusiastically S.993, the Biological Weapons Anti-Terrorism Act of 1989 that you introduced in May 1989. We commend your willingness to take the lead over an issue that has been neglected for 15 years.

Passage of such a bill is necessary to conform domestic law with the international obligations we undertook by ratifying the 1972 Biological Weapons Convention which banned the development, production, possession and transfer of all biological and toxin weapons. As you are aware, the United States generally follows up treaty ratification with required domestic legislation.

The Biological Weapons Anti-Terrorism Act would make it a federal crime for any private citizen or corporation, including any governmental personnel, to develop, produce, or possess any biological agent or toxin for use as a weapon of mass destruction. Though the Biological Weapons Convention itself bars the U.S. government from developing biological weapons, it provides no domestic penalties against private individuals, or even terrorists, for work on biological weapons.

In light of increasing concern in the U.S. and around the world about biological and chemical weapons proliferation, it is urgent that the U.S. move quickly to complete this long overdue action.

We congratulate you for holding a hearing on the bill and obtaining the endorsement of the Bush Administration, with some minor suggestions on wording. We urge you to work for early adoption of the bill by the Judiciary Committee and the Senate.

Yours sincerely,

Jim Wetekam, Policy Advocate
Office for Church in Society
United Church of Christ

David Cohen, President
Professionals' Coalition for Nuclear
Arms Control

Shira Flax, Washington Representative
Sierra Club

John Isaacs, Legislative Director
Council for a Livable World

Robert W. Tiller, Director
Office of Governmental Relations
American Baptist Churches, USA

Nancy Sylvester, National Coordinator
NETWORK, A Catholic Social Justice
Lobby

Edward F. Snyder, Executive Secretary
Friends Committee on National Legislation

Nachama Wilker, Executive Director
Committee for Responsible Genetics

Nancy Donaldson, Political Director
Women's Action for Nuclear Disarmament

Robert Z. Alpern, Director
Washington Office
Unitarian Universalist Association of Churches in North America

Edith Villastrigo, National Legislative Coordinator
Women Strike for Peace

Delton Franz
Washington Office
Mennonite Central Committee

Mary Jane Patterson, Director
Washington Office
Presbyterian Church, USA

Howard Ris, Executive Director
Union of Concerned Scientists

Maureen T. Thornton, Executive Director
Physicians for Social Responsibility

Leland Wilson, Director
Washington Office
Church of the Brethren

Nick Carter, Executive Director
SANE/FREEZE: Campaign for Global Security

Isabel Guy, Director
Washington office
Women's International League for Peace and Freedom

Jeremy J. Stone, President
Federation of American Scientists

Bob Edgar, Executive Director
Committee for National Security

Howard W. Hallman
Issues Chair, Methodists United for Peace With Justice

THE ROCKEFELLER UNIVERSITY
1230 YORK AVENUE NEW YORK, NY 10021

JOSHUA LEDERBERG
PRESIDENT

August 10, 1989

Senator Herb Kohl
United States Senate
Committee on the Judiciary
Washington, D.C. 20510-6275

Dear Senator Kohl:

Thank you for inviting me to comment on Senate Bill 993. I am sorry that I was out of the country until just a few days ago but I will take this opportunity to make a few observations now.

I believe it would be very desirable to enact legislation that would implement the BW convention. I support that very strongly. There are nevertheless complications and difficulties in translating treaty obligations, which apply among sovereign states, to governing the acts of individuals. There are also severe definitional problems that I know will get your very careful attention. The term "weapons of mass destruction" appears in the preamble to the BW Convention but not in its text: as it has not been well defined I do not think it belongs in the legislation.

I have a radical suggestion to cover what we are looking for with respect to sanctions on individual behavior: Make it a federal crime for an individual to release or threaten to release an infectious biological agent with the intention of assault: of doing harm to any individual or individuals, to assist others to do the same, or to conspire to perpetrate such acts. Besides its relationship to the BWC, such crimes are a matter of federal interest because they go beyond other forms of personal assault and homicide by endangering the community at large. While this may seem to be at a different vector than your bill - S. 993 I believe that it would actually encompass all of the realistic cases that could be envisaged, including individual homicide, terrorism, and military acts in violation of the BWC. Terrorist acts could after all be directed at individuals or small numbers of individuals, not necessarily acts of "mass destruction". There are many other loose ends in the Convention but I urge you not to try to address them in legislation: they are already troublesome in international discussion, like the definition of "toxins". These are better coordinated with chemical weapons and their control.

As to the seizure and destruction of dangerous material, that ought to be embraced under existing law as (a) material evidence (b) environmental safety and (c) interstate transport and export of dangerous material.

Yours sincerely,

Joshua Lederberg

II

101st CONGRESS
1st Session

S. 993

To implement the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and Their Destruction, by prohibiting certain conduct relating to biological weapons, and for other purposes.

IN THE SENATE OF THE UNITED STATES

May 16 (legislative day, January 3), 1989

Mr. Kohl (for himself, Mr. Pryor, Mr. Hatfield, Mr. Glenn, and Mr. Leahy) introduced the following bill; which was read twice and referred to the Committee on the Judiciary

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A BILL

To implement the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and Their Destruction, by prohibiting certain conduct relating to biological weapons, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Biological Weapons Anti-Terrorism Act of 1989".

SEC. 2. TITLE 18 AMENDMENTS.

(a) In General.—Title 18, United States Code, is amended by inserting after chapter 9 the following:

"CHAPTER 10—BIOLOGICAL WEAPONS

"Sec.
"175. Prohibitions with respect to biological weapons.
"176. Seizure and destruction.
"177. Injunctions.
"178. Definitions.

"§ 175. Prohibitions with respect to biological weapons

"Whoever, in the United States or under the jurisdiction or control of the Government of the United States anywhere—

"(1) knowingly develops, produces, stockpiles, transfers, acquires, retains, or possesses any agent, toxin, or delivery system for use as a weapon of mass destruction; or

"(2) knowingly assists a foreign state or an international organization (as defined in section 1116 of this title) to manufacture or otherwise acquire any agent, toxin, or delivery system for use as a weapon of mass destruction;

shall be fined under this title or imprisoned for life or any term of years, or both.

"§ 176. Seizure and destruction

"(a) In General.—The Attorney General may seize and provide for the destruction of—

"(1) any agent, toxin, or delivery system that exists by reason of conduct prohibited under section 175 of this title; and

"(2) any agent or toxin of a type or in a quantity useful primarily as a weapon of mass destruction.

"(b) DEFENSE.—It is a defense against a seizure under subsection (a) of this section that—

"(1) such agent or toxin is for a prophylactic, protective, or other peaceful purpose; and

"(2) such agent or toxin is of a type and quantity reasonable for that purpose.

"(c) PROCEDURE.—The same procedures and provisions of law relating to a forfeiture under section 924(d) of this title shall so far as applicable extend to a seizure under this section.

"(d) NONEXISTENCE OF PROPERTY RIGHTS.—No property right shall exist in any agent, toxin, or delivery system that is subject to seizure under this section.

"§ 177. Injunctions

"(a) IN GENERAL.—The United States may obtain in a civil action an injunction against—

"(1) the conduct prohibited under section 175 of this title;

"(2) the planning, preparation, solicitation, attempt, or conspiracy to engage in conduct prohibited under section 175 of this title; or

"(3) the development, production, stockpiling, transferring, acquisition, retention, or possession, or the attempted development, production, stockpiling, transferring, acquisition, retention, or possession, of any agent or toxin of a type or in a quantity useful primarily as a weapon of mass destruction.

"(b) DEFENSE.—It is a defense against an injunction under subsection (a)(3) of this section that—

"(1) the conduct sought to be enjoined is for a prophylactic, protective, or other peaceful purpose; and

"(2) such agent or toxin is of a type and quantity reasonable for that purpose.

"§ 178. Definitions

"As used in this chapter—

"(1) the term 'agent' means any micro-organism, virus, or infectious substance, capable of causing—

"(A) death, disease, or other biological malfunction in a human, an animal, a plant, or another living organism;

"(B) deterioration of food, water, equipment, supplies, or material of any kind; or

"(C) deleterious alteration of the environment;

"(2) the term 'toxin' means, whatever its origin or method of production—

"(A) any poisonous substance produced by a living organism; or

"(B) any poisonous isomer, homolog, or derivative of such a substance;

"(3) the term 'delivery system' means—

"(A) any apparatus, equipment, device, or means of delivery specifically designed to deliver or disseminate an agent, toxin, or vector; or

"(B) any vector;

"(4) the term 'vector' means a living organism capable of carrying an agent or toxin to a host; and

"(5) the term 'use as a weapon of mass destruction' means—

"(A) use or the threat to use; or

"(B) causing, permitting, or facilitating use;

as a weapon of mass destruction; and

"(6) the term 'whoever' includes governmental entities and personnel.".

(b) CLERICAL AMENDMENT.—The table of chapters for part I of title 18, United States Code, is amended by inserting after the item relating to chapter 9 the following new item:

"10. Biological Agents and Toxins.. 175.".

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